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SURGICAL DISEASES OF THE UMBILICUS *

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In the summer of 1904 I removed from a man 42 years of age an umbilical growth which on histologic examination was found to be an adenocarcinoma. Being at a loss to account for a glandular growth at the umbilicus, and at the time being unfamiliar with the fact that cancers of some of the abdominal organs sometimes give rise to metastases at the umbilicus, I started to review the literature of diseases of the umbilicus. It was my intention to present to the Section a digest of these studies, but, notwithstanding the fact that few surgeons have observed more than one or two pathologic conditions of the umbilicus, I found that the sum total gives such an abundant and varied material that to do the subject justice and to consider it carefully from all standpoints would require several hours.

Undoubtedly one of the best articles on the umbilicus is that by Reginald Fitz,[1] published in 1884. Other valuable contributions have also been published by Freer[2] and by Morris.[3]

The French have dealt with the subject in a most exhaustive manner, and especially good articles have been published by Villar,[4] Lannelongue and Frémont,[5] and by Quénu and Longuet.[6] In the German literature the articles of Kolaczek,[7] Küster,[8] Hertz,[9] Ledderhose,[10] Tillmans,[11] Pernice,[12] Siegenbeek van Heukelom[13] and Schroeder[14] stand out prominently.

On this occasion, then, I shall limit myself to the consideration of pathologic pictures due to partial or total lack of closure of the omphalomesenteric duct and to primary and secondary cancer of the umbilicus.

NON-MALIGNANT ABNORMALITIES OF THE UMBILICUS

Adenoma of the Umbilicus.—Occasionally when the cord comes away a small red, pedunculated nodule is found springing from the umbilical depression. This nodule may be the size of a pea, a small cherry or a red raspberry. It is bright red in color, has a velvety surface, secretes a small amount of mucus and is attached to the umbilical depression by a delicate pedicle. On pressure this small nodule is firm and velvety. On histologic examination the outer surface is found to be covered with mucosa identical with that lining the small intestine. There is an outer covering of cylindrical epithelium, and then come the typical Lieberkühn glands with the intervening stroma. Beneath the mucosa is a certain amount of fibrous tissue and the center is composed of non-striped muscle fibers.

Funnel-shaped Umbilicus.—Sometimes after the cord comes away the nurse notices that the umbilicus is somewhat moist and on investigation the umbilical depression is found to be deeper than usual. The outer portion is covered with normal skin, the deeper portion of the funnel has a reddish, velvety lining and partially filling the cavity is a transparent, slightly tenacious mucus. Sections from the red lining show that it consists of a mucosa identical with that of the intestine and that it has an outer coat of non-striped muscle fibers.

Cystic Cavities in the Abdominal Wall at the Umbilicus.—In a few cases there was noted a slight watery discharge from the umbilicus and on examination a small fistulous opening was detected leading directly inward for from one to several centimeters. These cavities were partially filled with mucus, and were lined with a velvety membrane which proved to be intestinal mucosa. These cystic spaces may lie external to or beneath the aponeurosis and in at least one instance the cystic cavity had no connection with the outside.

Meckel's Diverticulum.—As is well known, Meckel's diverticulum, when present, usually projects from the convex surface of the ileum a few inches from the ileocecal valve and represents a portion of the omphalomesenteric duct which has never closed. It may or may not have a mesentery. Its tip may be free or attached to the umbilicus by delicate threads—remnants of the omphalomesenteric arteries and veins or of the outer portion of the omphalomesenteric duct which has not totally disappeared. Meckel's diverticulum may extend up to and be firmly attached to the peritoneum at the umbilicus.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-First Annual Session, at St. Louis, June, 1910.

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2. Freer, James A.: Abnormalities of the Urachus, Ann. Surg., 1887, v, 107.
3. Morris: Malignant Diseases of the Navel as a Secondary Complication. Ann. Surg., 1892, xv, 326.
4. Villar: Tumeurs de l'ombilic, Thèse de Paris, 1886.
5. Lannelongue and Frémont: De quelques variéteés de tumeurs congénitales de l'ombilic et plus spécialement des tumeurs adénoides diverticulaires, Arch. gén. de méd., 1884, Siegenbeek 7, xiii, p. 36.
6. Quénu and Longuet: Du cancer secondaire de l'ombilic. Rev. de chir., 1896, xvi, 97.
7. Kolaczek: Zwei Entero-Teratome des Nabels, Arch. f. klin. Chir. (Langenbeck's), 1875, xviii, 349.
8. Küster: Die Neubildungen am Nabel erwachsene und ihre operative Behandlung, Arch. f. klin. Chir., (Langenbeck's), 1874, xvi, 234.
9. Hertz: Ueber einen Fall von Adenocarcinom des Nabels bei einer 58-jährigen Frau, Inaug. Diss., Würzburg, 1905.
10. Ledderhose: Chirurgische Erkrankungen des Nabels, Deutsche Chirurgie, 1890, Instalment 45 b.
11. Tillmanns: Ueber angeborenen Prolaps von Magenschleimhaut durch den Nabelring (Ectopia ventriculi) und über sonstige Geschwülste und Fisteln des Nabels, Deutsch. Ztschr. f. Chir., 1882-1883, xviii, 161.
12. Pernice: Die Nabelgeschwülste, Halle, 1892.
13. Siegenbeek van Heukelom: Die Genese der Ectopia ventriculi am Nabel, Virchows Arch. f. path. Anat., 1888, cxi, 475.
14. Schroeder: Ueber die Divertikel-Bildungen am Darm-Kanale, Inaug Diss., Augsburg, 1854.

Intestinal Cysts.—Intestinal cysts occasionally occur. Meckel's diverticulum may be nipped off and form a closed sac lined with intestinal mucosa having muscular walls and an outer peritoneal surface. Several such cases are on record. These cysts usually contain nothing but mucus, indicating that they have been cut off at an early period, at a time when no meconium is present in the intestine.

Patent Omphalomesenteric Duct.—A large number of cases belonging to this class have been reported. In some the cord is of unusual size at the umbilicus and shortly after it has dropped off a red mass is found. This is sometimes very small; in other cases one centimeter or more in diameter. It usually projects about 1 cm. from the surface, but in some cases is fully 4 cm. long. In the center is a depression into which a sound can be passed for several centimeters. At first only mucus escapes, but later more or less fecal matter. Where the opening is small and a projection is scarcely noticeable only a faint moisture may be noted.

In several cases in which this very small opening large existed numbers of roundworms and occasionally a tapeworm have escaped through the fistulous tract.

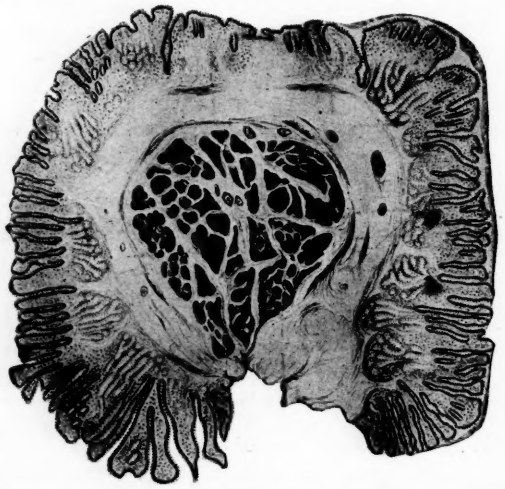

Fig. 1.—Adenoma of the umbilicus. The specimen represents a transverse section through a so-called adenoma of the umbilicus. The central stem is made up of non-striped muscle fibers cut transversely. Surrounding this is a zone of fibrous tissue and the outer surface is covered by a mucosa consisting essentially of glands of the small intestine. (Lannelongue and Frémont: Arch. gén. de méd., 1884, cliii, 62.)

Prolapsus and Invagination of the Small Bowel Through the Omphalomesenteric Duct.—If the fistulous opening be large, serious consequences usually follow. When the cord comes away a red nodule at the umbilicus is noted and fluid escapes. Fecal matter is usually passed through the rectum. In the course of a few days, when the child cries or strains, the umbilical picture changes and a little dome-like elevation is seen in the fistulous tract and in a short time a sausage-like mass several inches in length may be seen literally rolling out of the abdomen. This represents the small bowel which is being turned inside out through the fistulous opening. At either end of this sausage-like mass one finds a lumen, the upper and lower ends of the prolapsed part of the bowel. If one were able to put a hand into the abdomen the minute the bowel begins to invert and make gentle traction, the bowel would at once turn in and become straight, with the fistulous tract passing off at right angles and ending at the umbilicus. As one may surmise, fecal matter comes from the upper end of the prolapsed bowel, nothing but mucus from the lower end and sometimes mucus and possibly a little blood from the rectum. The child dies in from one to three days with signs of shock and occasionally of a general peritonitis.

Origin of Adenoma of the Umbilicus.—The term "adenoma" is a misnomer, but as the name has been used so long it has been generally accepted. When we remember the funnel-shaped umbilical depression with the intestinal mucosa in the depth, and also remember that it is the outer portion of the omphalomesenteric duct which has remained open, it is only necessary to realize what may take place when the umbilicus is gradually closing in. This funnel of mucosa may be forced outward and turn inside out. The inner lining of mucosa now becomes the outer surface and the outer muscular walls become the center of the pedicle. This is exactly the condition found when these adenomata are present.

Treatment of Remains of the Omphalomesenteric Duct.—Adenomata may be ligated. If so treated they usually drop off in a few days. They may be ligated

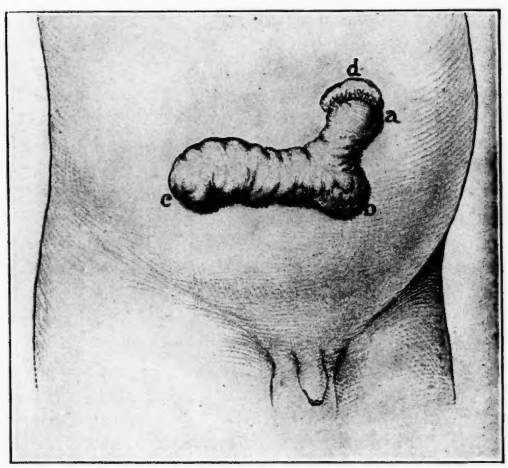

Fig. 2.—Inversion of the patent Meckel's diverticulum and its complication with intestinal prolapsus. A tumor was noticed at the umbilicus as soon as the cord came away. Through this opening fecal matter escaped. There were also normal stools by the rectum. This tumor was 1 cm. long, blood-red in color, velvety, and looked like injected intestinal mucosa. It was 1.5 cm. in diameter and a probe passed in 4 cm. Five days later the small tumor had been transformed into the sausage-like mass noted in the figure. Projecting from the umbilical ring was a cylindrical tumor 2.5 c.m. long and 1.75 cm. thick. This tumor, *a*, was continuous with the sausage-like cylindrical tumor *b*, *c*. The tumor was dark red and covered over by mucosa which bled easily. Funnel-like openings were present at points *b* and *c*. The opening at *b* passed inward through a canal in the tumor *a* and then was continuous into the abdominal cavity. From the opening at *b* fecal matter escaped. At *d* was a blind projection. The child was observed for several days and as a result of crying more loops of intestine came down. An attempt was made to carry these back into the abdomen and the bowel was injured. From this description it is seen that there was a prolapsus of the inverted intestine. The child died sixty hours after operation. (Arthur Barth: Deutsch. Ztschr. f. Chir., 1887, xxvi, 195.)

and at once cut off. It is always important to ligate, as the pedicle usually contains vessels of goodly size. In all such cases the parents should be cautioned to watch the child carefully because in a certain percentage of these children a Meckel's diverticulum exists and is firmly attached to the umbilicus. If at any time signs of intestinal obstruction develop an exploratory section should at once be performed. Several cases have been

reported in which small adenomata existed, attached by a fibrous cord to a Meckel's diverticulum.

Where a funnel-shaped umbilicus is present and the deeper portion is lined with mucosa it seems advisable to make an elliptical incision, removing the entire area and at the same time exploring to see if Meckel's diverticulum is attached to the umbilicus. If so, it should be removed.

In those cases in which a very small fecal fistula is present it may be advisable to wait a few months to see if it will not close. If it is still open at the expiration of six months it should be dissected out down to the ileum and removed. Even should it close the child should be carefully watched for signs of obstruction.

Where the fistulous opening is large it should be removed at once. With the child in good condition the danger is not very great. When prolapsus of the bowel with inversion has occurred, however, as a rule signs of shock have already supervened and the chances of success even with operation are very remote.

MALIGNANT GROWTHS OF THE UMBILICUS

These may be divided into four varieties:

1. Primary squamous-cell carcinoma.
2. Primary adenocarcinoma.
3. Sarcoma.
4. Secondary carcinoma.

Primary Squamous-Cell Carcinoma.—Cases have been reported. They are very rare and even in the majority of the supposedly authentic cases there is doubt as to the accuracy of the diagnosis. The gross appearance is identical with that of a skin cancer elsewhere. The process seems to be a slow one and on histologic examination the typical appearance of squamous-cell growth is clear.

Primary Adenocarcinoma of the Umbilicus.—This appears to be more frequent than that of the squamous-cell type. Here also much confusion exists from the fact that the umbilical growth may be nothing more than a secondary manifestation of a primary growth in one of the abdominal organs. As has been pointed out in the preceding paragraphs glandular remnants of the omphalomesenteric duct are often present at or near the umbilicus and one would naturally expect that these should occasionally undergo malignant changes.

Bonvoisin[15] observed a case in Tillaux's clinic that seemed without doubt to be a primary umbilical carcinoma. A man, 64 years old, had been ill for two months. At the umbilicus was a brawny excrescence. When the nodule was first noticed it was no larger than a pea. In fifteen days it had ulcerated and the surrounding skin was eczematous. On his admission to the hospital the umbilical zone was replaced by a shallow ulcer with a blackish crust and surrounding this was an inflammatory zone. The entire mass was as large as a five-franc piece and immobile. The nodule was removed but the man died. At autopsy no peritonitis was found and careful examination failed to reveal any primary carcinoma in the abdomen. Ducellier, who examined the specimen, came to the conclusion that the growth was a primary adenocarcinoma of the umbilicus originating from remains of the omphalomesenteric duct.

Sarcoma of the Umbilicus.—Pernice, in his splendid monograph, says that he was able to collect accounts of only six cases. On reading over the reports of these cases, however, one cannot help gathering the impression that most of the growths were in reality fibromata. The evidence of their sarcomatous nature is hardly sufficient to be convincing.

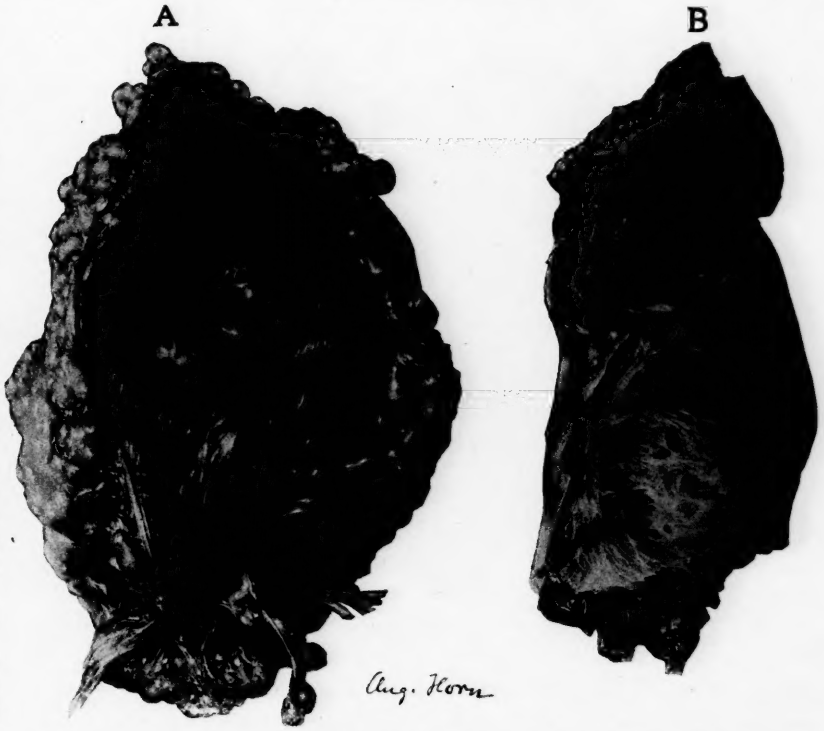

Fig. 3.—Secondary carcinoma of the umbilicus. Natural size. (Path. No. 15029. Specimen sent by Dr. Haggard of Nashville, Tenn., April, 1910.) The umbilical fold is much widened and the umbilicus is shallower than usual. It presents a somewhat uneven and nodular appearance, but is everywhere intact. To the right is a longitudinal section through the umbilicus. There is a deep cleft along the skin surface and the umbilical fold is deeper than usual. The fat in the depth has been replaced to a large extent by fibrous tissue, which is everywhere infiltrated by carcinoma. The peritoneal surface, which is to the left, is perfectly smooth; there is not the slightest evidence of any adhesions.

Leydhecker[16] reported the case of a girl of 14, poorly nourished, who had a nodule at the umbilicus. This grew slowly until nine months before operation, when it suddenly became painful and rapidly became larger. At operation the tumor was found to be oval and the size of an orange. It was smooth and slightly pendulous. The skin over the tumor was very thin and bluish-red. Over the lower part of the tumor were ulcerated areas covered with blood and pus. The tumor lay on the superficial fascia. On section it was yellow,

15. Bonvoisin: D'épithélioma de l'ombilic. Thèse. Paris. 1891.

16. Leydhecker: Zur Diagnose der sarcomatösen Geschwulste, Giessen, 1856.

homogeneous and resembled pork. Histologically it proved to be a spindle-celled growth. It was probably a sarcoma. The subsequent history was not recorded.

Secondary Carcinoma of the Umbilicus.—From a clinical standpoint this is by far the most interesting and important pathologic change that may be encountered at the umbilicus. Without a doubt many members of this Section have had one or more patients come to them complaining of an uncomfortable sensation at the umbilicus. On examination some thickening was detected or possibly a small nodule. There was, however, no evidence of any inflammation and the patient was probably in good health.

Such patients frequently give a history of having had a blow on the abdomen or a sudden abdominal strain a few months before this thickening was noted. If a careful history be elicited, we shall learn that for several months they have had some indigestion or a little vomiting, although in some cases these symptoms may be

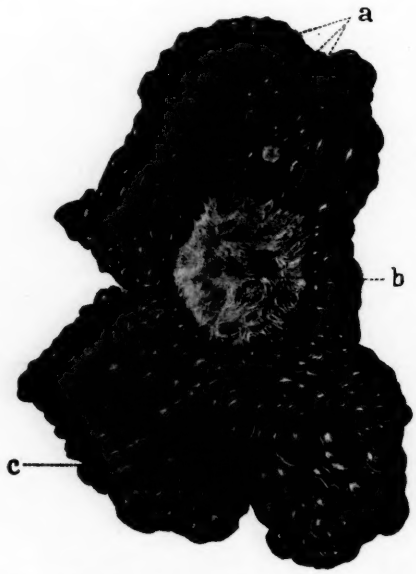

Fig. 4.—The section shows carcinoma of the right inguinal glands. Scattered throughout the adipose tissue are several solid areas. Those indicated by *a* are small lymph-glands. The lymph-gland at *b* is greatly enlarged, and everywhere infiltrated by carcinoma which is invading the surrounding tissue; *c* is also an area of carcinoma.

entirely wanting. In other cases the umbilical discomfort was the first thing that in any way inconvenienced the patient. Shortly after the nodule is detected signs of indigestion usually manifest themselves, and the patient loses weight and dies. The diagnosis may still be in doubt, but an autopsy will usually reveal a carcinoma of the stomach, which in many of the cases has been latent, and which occasionally has given rise to no local manifestations whatever.

In these cases the carcinoma has extended to the under surface of the liver either by the lymphatics or by continuity. It has then traveled along the suspensory ligament to the umbilicus. The umbilical growth, accordingly, lies extraperitoneally between the peritoneum and the fascia. From this point it gradually spreads through the surrounding fat as a rather diffuse growth. This growth on section reminds one more of dense fibrous tissue than of a carcinoma (Figs. 3, 5 and 6.) In the early stages there are no definite discrete foci that could be recognized as carcinomatous. Their absence is due to the fact that the glands are so thoroughly scattered throughout the fibrous tissue. Rarely in the early stages is the peritoneum implicated. In each of the three illustrations the peritoneum was perfectly smooth.

After the umbilical nodule has been in existence for several months the lymph-glands may be implicated. The superficial lymphatics from the upper part of the umbilicus pass to the axillary glands; those from the lower portion to the inguinal glands. The deep lymphatics pass either to the retrosternal or iliac glands.

Cancer of the stomach may occasionally become adherent to the anterior abdominal wall and involve the umbilicus by continuity. While a gastric cancer is the most frequent cause of secondary growth at the umbilicus, cancer of the small or large intestine or of the uterus or ovaries may be followed by a secondary umbilical growth. In these cases the extension to the umbilicus may be by way of the lymphatics, by continuity or through secondary involvement of the omentum. In several cases the omentum has been caught in an umbilical hernia and the incarcerated nodule has involved the umbilical peritoneum. In one case at least the umbilical cancer was secondary to a malignant growth of the gall-bladder.

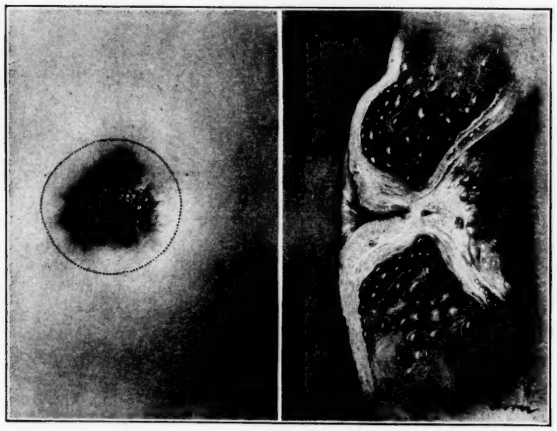

Fig. 5.—Adenocarcinoma of the umbilicus. The umbilicus looks very much like an inverted carcinomatous nipple. The margins present a fine nodular appearance. The dotted line indicates the limits of the induration. On the right is a longitudinal incision through the umbilicus. There is much thickening due to carcinomatous infiltration. The peritoneum beneath the umbilicus was free from adhesions.

Tisserand[17] saw a woman, 54 years of age, who had been suffering from pain in the umbilical region for five months. The umbilicus was very red, slightly painful and indurated. An exploratory operation was performed and the patient died suddenly on the tenth day. Cancer of the gall-bladder was found. This viscus also contained gall-stones. The glands along the suspensory ligament to the umbilicus looked like beads. No trace of cancer was detected in any other organ.

In my last case the umbilical cancer was secondary to cancer of the gall-bladder.

In the cases in which the patient remains alive for a long period, or in which the abdominal growth is a rapid one, the gastric cancer may break through and an abscess develops usually between the liver, stomach, transverse colon and lateral abdominal wall. This abscess may find

17. Tisserand: A propos de deux cas de cancer secondaire de l'ombilic, La Loire méd., 1906, xxv, 131.

its way to the umbilical opening and form a permanent fistula. In those cases in which the stomach has become adherent to and involves the umbilicus by continuity the growth may be very rapid. There is first the thickening at the umbilicus and the overlying skin becomes fixed. Next there may be some reddening, fever, fluctuation and the physician or surgeon, thinking he is dealing with an abscess, opens it. A small amount of bloody serous fluid escapes; later particles of food may be detected. The growth occasionally wells up out of the fistulous tract, forming a cauliflower-like mass and the surrounding skin becomes markedly excoriated. Such a termination, however, is not common.

In the specimen sent me by Dr. Haggard, of Nashville, the umbilicus, apart from being much larger than usual and being markedly indurated, shows little change. The umbilicus in my first case was moist, and had little granular projections springing from it. In my second case

Fig. 6.—Appearance of the carcinomatous umbilicus after removal. Natural size. Path. No. 14968. A. The parts are slightly distorted from the action of the hardening fluid and the umbilicus comes out more prominently than it really did in the patient. There is, however, a slight unfolding of the umbilicus and one part seems somewhat raised. The umbilicus itself, however, was perfectly intact. B. A transverse section through the umbilicus. The half to the left is more prominent and represents the elevation noted in the umbilical depression. The surface, however, is intact. There is an increase in the amount of connective tissue, but no evidence of any definite nodule. Histologic examination showed that this area was everywhere infiltrated with carcinomatous glands.

the umbilicus was only slightly enlarged and the thickening could not be detected until the umbilicus was lifted up between the fingers. In my first case I removed the umbilicus thinking that it was the seat of a primary growth. In my second case it was removed on account of the severe pain experienced by the patient.

From what I have said, then, it is evident that there are two very important clinical factors to be considered. If an umbilical nodule be detected in a middle-aged person, the condition of the abdominal organs must at once be most thoroughly investigated. If moderate or marked indigestion exists cancer of the stomach may be suspected. If frequent jaundice has been present the possibility of cancer of the gall-bladder following gall-stones may be thought of as the causative factor. Marked intestinal symptoms will naturally suggest a growth in the small or large intestine, and a pelvic examination will tend to exclude or confirm the probability that the uterus or ovaries may be responsible for the umbilical growth.

The last case came under my observation a few weeks ago after my attention had been especially directed to this subject. The typical history of gall-stones coupled with the non-inflammatory umbilical thickening at once suggested carcinoma and I made a provisional diagnosis of cancer of the stomach or gall-bladder associated with gall-stones and interpreted the umbilical growth as a secondary manifestation. At operation I found gall-stones, cancer of the gall-bladder with involvement of the periportal lymph glands, and small metastases in the lesser omentum; histologic examination also revealed the presence of a secondary adenocarcinomatous growth at the umbilicus.

The second point this study brings out strongly is the futility of removing the umbilicus when the primary growth is in the abdomen. If one can positively say that cancer of an abdominal organ exists, removal of the umbilical growth is of little value because the disease is already too wide-spread to permit of total eradication. On the other hand, in some of the cases the symptoms are so obscure that a diagnosis cannot be ventured until an exploratory operation has been performed; and again, in cases such as my last one the chief pain is referred to the navel region and removal of the umbilicus is followed temporarily by comfort.

SECONDARY ADENOCARCINOMA OF THE UMBILICUS; ILLUSTRATIVE CASES

CASE 1 (Path. No. 15,029).—The specimen sent me by Dr. Haggard of Nashville, Tenn., in April, 1910, consists of the umbilicus with a good deal of surrounding tissue. The entire specimen measures 10 cm. in length, 7 cm. in breadth. The umbilicus is 2.5 cm. across and is covered with skin. It presents a rather uneven, nodular surface, and is much more prominent than usual, having welled up in the center (Fig. 3). There is, however, no evidence of ulceration at any point. On section the distance between the umbilicus and the peritoneal surface is 2 cm. The tissues look fibrous and in the vicinity of the umbilicus show infiltration apparently with fibrous tissue. At one point is an area of what looks like localized fibrous thickening 2.5 cm. in diameter. The adipose tissue has been almost entirely replaced at this point.

Histologic Examination.—The squamous epithelium is intact and there is pigmentation in the deeper layers, suggesting that the specimen has come from a colored patient. The tissue immediately beneath the skin in some places is normal; at other points it shows some small, round-cell infiltration. Scattered everywhere throughout the thickened fibrous tissue are glands. Some of them are small and round, others elongated or tubular; others are dilated. The glands are lined with cylindrical or cuboidal epithelium which in most places is one layer in thickness. The nuclei of the epithelial cells are for the most part oval and stain uniformly. A few of the epithelial cells have very large and deeply staining nuclei. Where the glands are dilated the epithelium tends to become cuboidal. At other points the glands are exceedingly abundant, are undergoing disintegration and are filled with mucus. In some places the epithelium is several layers in thickness. Here and there gland epithelium has proliferated to such an extent that new glands are being formed. The growth is

undoubtedly a carcinoma of a glandular type and similar to that originating either in the stomach or intestine.

CASE 2.—Secondary carcinoma of the umbilicus; metastases in the right inguinal glands. Mr. G., 42 years of age, was seen in consultation Aug. 30, 1904. The patient was well nourished, and complained of a discharge from the umbilicus. Six weeks before he was struck in the abdomen with a shoe and the umbilicus commenced to discharge three weeks later. The umbilicus itself presented a granular appearance (Fig. 5) and the tissue surrounding it was indurated. The patient had had dyspepsia for years; also pain in the lower abdomen over the appendix. He was admitted to the Church Home. Under anesthesia the inguinal glands were carefully palpated. A definite enlargement was found in the right side. An incision 10 cm. in length was made and the inguinal glands removed, together with the surrounding fat. I then made a long elliptical incision around the umbilicus and removed the umbilical tumor, giving the hardened area a wide berth. The growth at the umbilicus closely resembled a retracted nipple. The patient took the anesthetic badly. Consequently I could not make as thorough an abdominal exploration as desired. With the finger carried in all directions I was unable to detect any thickening.

Histologic Examination (Path. No. 7729).—The umbilical growth proved to be a typical adenocarcinoma. The squamous epithelium in many places was normal, but along the edge of the growth it was impossible to distinguish between the cells of the adenocarcinoma and those of the squamous epithelium. There was as yet little breaking down. The growth in the inguinal glands macroscopically looked like cancer (Fig. 4). On histologic examination it presented exactly the same pattern as that noted at the umbilicus.

On Jan. 25, 1905, the patient was in fairly good health. He still had considerable constipation, however. He also had great difficulty in defecation. February 24, a firm globular mass fully 10 cm. in diameter occupied the middle of the abdomen and the left inguinal glands were considerably enlarged. The umbilical growth was undoubtedly secondary to the intestinal cancer. In May, 1905, I again saw the patient. His bowels had not moved for ten days and he was so emaciated that one would hardly recognize him. The abdominal nodules were everywhere palpable. He died a few days later.

CASE 3.—Adenocarcinoma of the umbilicus secondary to carcinoma of the gall-bladder. Mrs. B., aged 58, was seen in consultation with Dr. George L. Wilkins and admitted to the Church Home and Infirmary, April 24, 1910. The patient complained of an "umbilical nodule and of gall-stones." Her past history was negative. The menopause had occurred at 50. The patient had had five children. The first and last labors were instrumental.

The patient showed a slight bulging at the umbilicus on standing. This was painful when the clothes rubbed against it. It was noticed first in December, 1909, that is, about four months before examination. For some months the patient suffered at intervals with pain in the region of the gall-bladder and had been jaundiced. The pain radiated to the back and to the right shoulder. At the time of examination there was some tenderness in the gall-bladder region. She suffered from the presence of gas and from constipation. There had been no clay-colored stools. The heart and lungs were normal. The urine was practically normal.

From the history and general condition a provisional diagnosis was made of either cancer of the stomach or of the gall-bladder, associated with a secondary nodule at the umbilicus. On examination of the umbilicus there was just a slight rolling out, but nothing to suggest a nodule until one picked the umbilicus up between the fingers, when marked sensitiveness became apparent (Fig. 6).

Operation.—April 25, 1910, on making a right rectus incision I at once encountered little nodules in the lesser omentum. The gall-bladder contained numerous stones and also a new growth. The new growth was firm and had extended to the lymph-glands around the portal vein. One of these was over 3 cm. in diameter. We were dealing with a carcinoma of the gall-bladder, together with metastases in the lesser omentum and the umbilicus. On account of the marked involvement of the lymph-glands complete removal of the primary growth was impossible. As the patient had had a great deal of pain in the umbilicus, this was removed. The inner or peritoneal surface of the umbilicus was free from adhesions. The patient made a good temporary recovery and was discharged May 9, 1910.

Pathologic Examination (Path. No. 14968).—The specimen consists of the umbilicus and surrounding skin. It is 7 cm. in length, 5 cm. in breadth. The umbilicus is slightly prominent. It is commencing to unfold a little as seen in Fig. 6. It was not quite so prominent, however, in the fresh state. The nodule could be readily felt on lifting the umbilicus up with the fingers. It appeared to be about 1 cm. or more in diameter. In the hardened specimen the tissue was contracted, bringing the effect out more prominently. The skin was everywhere intact. The peritoneal surface was slightly puckered, but was free from adhesions. On section of the umbilicus the tissue looked fibrous and in its middle portion was what appeared to be a little area of hemorrhage about 2 mm. in diameter. At first sight one would not for a moment suspect the presence of carcinoma.

Histologic Examination.—The squamous epithelium is intact and immediately beneath it in a few places are some sweat-glands. Approaching the peritoneum colonies of glands are found closely packed together with very little connective tissue between them. The gland epithelium is for the most part one layer in thickness. In some places it is cuboidal, at other points cylindrical, and there are very minute glands. The nuclei of the epithelial cells stain uniformly, but vary considerably in size. In some places the epithelial cells seem to have a tendency to be arranged in single rows. The growth is without doubt a carcinoma. The small metastatic nodules found in the lesser omentum in the neighborhood of the gall-bladder present a precisely similar appearance. We are undoubtedly dealing with a primary carcinoma of the gall-bladder, involving the lymphatics around the portal vein. There have been metastases in the lesser omentum and also involvement of the umbilicus.

3 West Preston Street.

ABSTRACT OF DISCUSSION

DR. W. D. HAGGARD, Nashville, Tenn.: The specimen which I sent to Dr. Cullen was removed in 1903. Histologic examination proved it to be a case of primary carcinoma of the umbilicus. The man, 56 years old, had a hard mass at the umbilicus, for which I advised excision. He delayed the operation; acute symptoms of cholelithiasis set in, which he interpreted as coming from the umbilicus; he then asked for an operation. I excised the umbilicus circularly and met with considerable difficulty in closing the wound, because it pulled widely apart in all directions. I was obliged to use Bartlett's wire filigree to effect closure. At the time of operation the gall-bladder contained stones, which were removed, and, as we had so much difficulty in closing the opening, we drained the gall-bladder through the same incision. After five or six months the man had considerable jaundice, which I attributed to the contraction of the scar making traction on the gall-bladder and partially occluding the ducts. He died after seven months from cholemia. The necropsy failed to disclose any other malignant growth in the abdomen.

I had hoped that Dr. Cullen would be able to take up the other pathologic conditions of the umbilicus besides carcinoma. I have had two cases of protrusion of the umbilicus in generalized peritonitis, with simple incision of the umbilicus, for drainage, with cure. One of the patients was a woman, who had had a ruptured appendix, and whom I saw on the eighteenth day. She manifested symptoms of a general peritonitis, with free fluid of the abdomen. The umbilicus presented a pouched-out protrusion. The skin was reddened and thinned. I incised the umbilicus without an anesthetic, evacuated several quarts of fluid, and the patient recovered, which was rather noteworthy because of the very severe general peritonitis. She would not have stood a formal operation. I do not believe there was anything else to do than simply incise the

point which Nature had indicated for drainage. This experience was repeated in the second case, the patient being a girl, 13 years of age, who, in the second week of an attack of appendicitis, had a red protrusion of the umbilicus, with signs of free fluid, somewhat as in the first case. We incised the umbilicus, evacuated two quarts of fluid, and she recovered.

DR. THOMAS S. CULLEN, Baltimore: Dr. Haggard recently sent me a report of a case in which the purulent peritoneal fluid had escaped through the umbilicus. In reviewing the literature on diseases of the umbilicus I was particularly interested to see the large number of cases reported in which a purulent peritonitis had been evacuated spontaneously through the umbilicus. This was frequently the case in children. In adults, however, it is rare for the umbilicus to give way.

In the short time at my disposal it has been impossible to deal with the subject in full and I have only discussed it from two standpoints. Dermoid cysts of the umbilicus have, from time to time, been reported, but on carefully reading the detailed histories of these cases it seems perfectly clear that in the majority of instances the author was not dealing with a dermoid cyst, but with an umbilical concretion. On picking these concretions apart small pieces of wool or hair and occasionally particles of stone have been detected. The substance in a large measure depends on the occupation of the patient. The outer surface of the concretion in the majority of cases has presented a pearly appearance. This was due to a covering with various layers of exfoliated squamous epithelium. When as a result of irritation by the concretions the umbilicus becomes inflamed, the umbilical opening becomes smaller and smaller, on account of the surrounding inflammation; finally nothing but a pin-point opening remains and later often there is an escape of pus. With the application of poultices or following an incision and escape of the concretion the inflammatory condition disappears.

In some cases in which the omphalomesenteric duct has remained open and is recognized as a very small fistulous tract, roundworms may escape. In several cases from forty to fifty of these worms have come away, and occasionally a tapeworm has made its appearance on the abdomen.

Several other interesting cases are reported in which gallstones have been evacuated through the umbilical opening and in a few instances small hydatid cysts have escaped in this way. Dr. Alexander Hugh Ferguson, Chicago, told me of such a case that came under his observation.

In cases of primary carcinoma of the stomach the growth may travel toward the under surface of the liver, pass along the lymphatics of the suspensory ligament and reach the umbilicus. The umbilical growth consequently lies extraperitoneal between the peritoneum and fascia.

PHYSIOLOGIC IMPLANTATION OF THE SEVERED URETER OR COMMON BILE-DUCT INTO THE INTESTINE *

R. C. COFFEY, M.D.
PORTLAND, ORE.

At the 1909 meeting of the Southern Surgical and Gynecological Association at Hot Springs, Va., I reported a series of experiments on dogs in which various sections of the pancreas had been made and the remaining pancreas had been implanted into the intestine.

In the operation for the removal of the head of the pancreas, it was found necessary to transplant the common bile-duct into the intestine lower down, also to connect the stomach with the intestine lower down; and later the pancreatic implantation was done. In these operations of pancreatectomy and duodenectomy we found it necessary to operate in two stages. After the first operation the common bile-duct was cut off and implanted into the duodenum well below the opening of the pancreatic duct. This was done by direct implantation, using a method similar to one described by Dr. W. J. Mayo some years ago. Gastrojejunostomy was done at this time, also resection of the stomach.

At the second operation, the duodenum and the head of the pancreas were removed and the remaining tail was planted into a loop of intestine. The second stage of the operation was done from two to three weeks after the first. At the second operation it was invariably found that the common bile-duct, which had been implanted at the previous operation, was now distended to the size of a man's finger and in some cases even larger, and the bile was dammed back at low pressure. The common bile-duct and the two hepatic ducts presented the appearance of being simple extensions of the gallbladder. In the first case observed it was taken for granted that stenosis had occurred. When the second case was observed I cut open the duodenum, exposing the opening of the implanted duct, when it was found that the opening was large enough to admit a lead-pencil easily and that the bile was simply dammed back in the duct by the intra-intestinal pressure. As our experiments went on we observed that this condition was constant and present in every case. Five dogs with such a condition were observed later for varying periods and the specimens finally removed and preserved. One of the best specimens shows the bile-duct as large as a man's little finger and with walls almost as thick as an intestine. After observing these things it seemed quite probable that the bile-tract being permanently dilated in this manner might later prove to be a very serious thing as regards the future integrity of the liver. The only conclusions to be reached from the study of these cases, and from the specimens, was that the normal intra-intestinal pressure, when brought to bear directly within the end of the implanted duct, proved more than the strength of the frail bile-duct could withstand; consequently they kept dilating until Nature's law of compensation came to the rescue with a thickened duct wall, and prevented further distention, but not until the distention was sufficient practically to make an intestinal diverticulum of the bile-duct, thus exposing the liver to infection.

This seemed to me a most serious matter, so I set about to devise a plan which would prevent the intra-intestinal pressure being brought to bear directly from within the duct. The first step was to dissect the duodenum and see how Nature had planned this matter. I found that the common bile-duct first penetrated the serous and muscular coats of the duodenum and then passed just under the mucous membrane for approximately three-quarters of an inch before it penetrated the mucous membrane. I found also that the ureters entered the bladder in just such a way. It was readily seen that in these organs the intra-intestinal and intravesical pressure, instead of being brought to bear from within the duct, was brought to bear in a much larger area on the side of the duct, thus making a perfect valve The next question that arose was: Is it possible to duplicate this artificially? It was found not practicable to pass forceps between the layers of the intestine for the purpose of drawing the duct through. After thinking the problem over for some time, I remembered that during the course of a gastro-enterostomy when the serous and muscular coats are cut and the submucous

* Read in the Section on Surgery of the American Medical Association at the Sixty-First Annual Session, at St. Louis, June, 1910.

coat dissected, the mucous membrane pouts out between the cut edges of the wound, making of it a hernia. The following method was therefore devised.

METHOD OF PROCEDURE

First, the duct is located and ligated with linen or silk. It is then cut in two above the ligature and the edges caught and held with mosquito forceps while one wall of the duct is split down with a pair of scissors, as shown in Fig. 1, *a*. A linen suture is now passed through the split end of the duct so as to include about one-half of

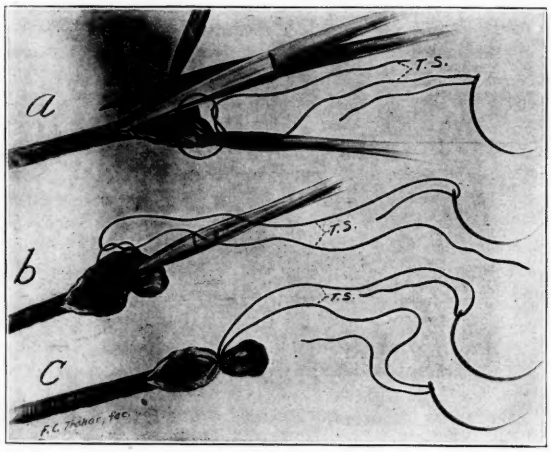

Fig. 1.—Preparing the duct for implantation into the intestine; *a*, splitting the duct to provide for drainage and tying the suture around half of the duct; *b*, tying suture around split duct; *c*, split duct ready for insertion.

it, and tied (Fig. 1, *a*). The linen thread is then thrown around the other half and tied (Fig. 1, *b*). The loose ends are then threaded into two needles. By this method the full strength of the duct is retained for traction, while the opening is maintained by the split (Fig. 1, *c*). The end of the duct is now wrapped with gauze while the intestine is prepared for its reception, which is done as follows:

The part of the intestine desired is picked up and an incision made down through the peritoneal and muscular coats, including submucous tissue until the mucous membrane pouts out through the incision (Fig. 2). This incision should be about one inch long or more. Second, five or six sutures are passed which pick up the peritoneal and muscular coats on each side of the incision. The suture at the upper end of the incision is tied as a control suture. The intermediate intestinal sutures are lifted up on the flat handle of an instrument as they cross the incision. Now the intestine is brought down close to the end of the split duct and the two needles carrying the threads (traction sutures) on the end of the duct are passed beneath the four or five intestinal sutures and through the stab wound in the mucous membrane into the intestinal lumen and out through the intestinal wall three-quarters of an inch farther along the intestine, and one-eighth to one-quarter inch apart. By making tension on these threads and at the same time pushing the intestine toward the duct, the duct is drawn beneath the intestinal sutures through the stab wound into the intestinal lumen, when the two ends of the threads on the duct are tied on the outside, thus anchoring the end of the duct on the inside of the intestine at this point (Fig. 3). The intestinal sutures are then tied, producing the result shown in Figure 4. After this operation the duct lies just beneath the mucous membrane, which has been loosened for approximately three-quarters of an inch of its course, so that it slides easily in its new channel. It is therefore necessary to tack the ureter to the peritoneum of the intestine near its point of entrance by two or three fine linen or silk sutures. Care should be used to take only the outer coat of the ureter in the bite of these sutures. Thus practically all the steps of the operation are completed before the intestinal mucosa is penetrated and no sutures penetrate the lumen of ureter. The traction suture at the end of the ureter within the intestine and the two or three anchor sutures fastening the duct to the intestinal peritoneum are the only means of retaining the duct in place. The same intra-intestinal force which later prevents regurgitation into the ureter now prevents the intestinal contents from leaking back by the loosely implanted ureter.

To prove the mechanical correctness of the theory of this operation, make a hole in the side of a rubber bag; insert a rubber tube and cement it; cement a flap of thin rubber over the end of the tube (Fig. 5, *a*); connect a fountain syringe filled with fluid with the tube and fill the bag (Fig. 5). If the syringe is now disconnected it will be found that no leakage from the tube takes place (Fig. 6).

While the theory of this operation is in harmony with Nature's method of the implantation of ducts, and while we are able to prove it mechanically, the physiologic and reparative processes found in surgery are so complex that we can never be certain of results from a given procedure until it has been proven experimentally and clinically. Experiments have therefore been made by the direct and indirect methods of transplanting both the bile-duct and ureters as follows:

PHYSIOLOGIC IMPLANTATION OF THE BILE-DUCT

After having incidentally made the observations noted above, namely, that the bile-duct always dilates as a

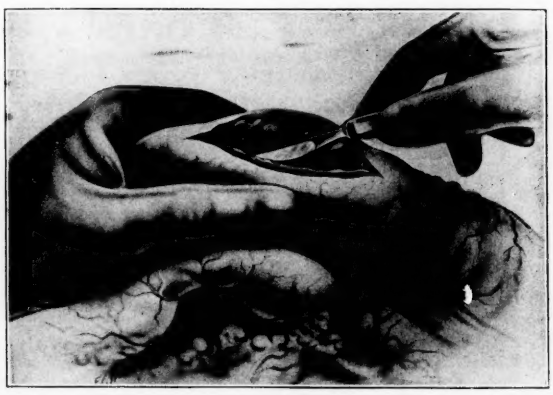

Fig. 2.—Incising peritoneal and muscular coats of intestine and freeing the mucous membrane from the muscular coat.

result of intra-intestinal pressure after it has been implanted into the intestine by the direct method, four operations were performed on dogs by the method just described in which nothing was done but implantation of the common bile-duct. The results in this series were as follows:

One dog was killed with chloroform on the fourteenth day and one on the fifteenth day after operation. Both showed perfect valve action. The ducts were possibly a

little more distended than normal, owing to swelling from the traumatism of the operation, which had not yet entirely subsided. One dog was killed on the sixtieth day and another on the sixty-first day after operation. In both cases perfect results were found. There was no distention of the ducts above and a ridge in the mucous membrane plainly marked the site of the reimplanted duct in almost the exact manner seen in the duodenum where Nature has implanted the common duct.

After the last specimen of this kind had been removed and the marked difference between the physiologic and the direct method of implantation had been observed, the idea presented itself that the same thing should be applicable in the implantation of the ureter. On December 4 my assistants and I implanted the ureter in a dog by the above method minus the peritoneal sutures which attach the ureters to the outer surface of the intestine. On December 30 we performed a similar operation on another dog. On December 31 we implanted the opposite ureter of Dog 1. On January 1 and 2 we operated on four other dogs. On the evening of the 2d very cold weather set in and as we had no facilities for heating our rooms all of our dogs except the one operated on December 30 died of cold, including the one in which we implanted the second ureter. On this subject we did a necropsy with the following results: There was no enlargement of the kidney. The ureter was slightly dilated with some stenosis of the opening into the intestine. While this narrowing of the ureteral opening had not reached the point of obstruction or hydronephrosis, the indications were that these conditions would have ensued and the probable cause seemed to be that by not placing the peritoneal anchor sutures the ureter had slipped and drawn back somewhat into the submucous canal. The recently implanted kidney was in a perfectly healthy state, as were the kidneys of all the other dogs which died from the effects of cold weather. Late in February, when the weather was more favorable, we

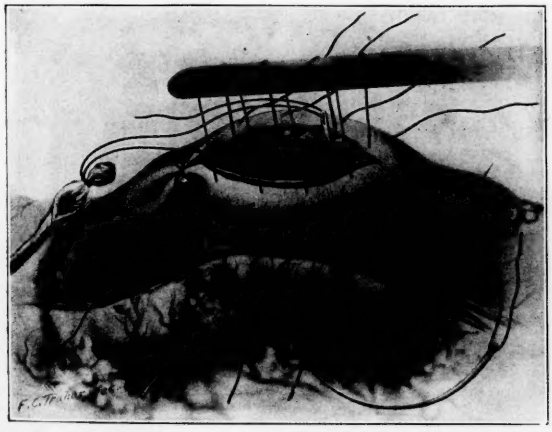

Fig. 3.—Sutures have been passed and duct is being drawn under the intestinal sutures through the stab wound in the mucous membrane.

took up our experimental work again, which I now report.

PHYSIOLOGIC IMPLANTATION OF THE URETER INTO THE LARGE INTESTINE OF THE DOG

Dog 1. Preoperative condition good. Operated on Dec. 30, 1909. Right ureter implanted into large intestine about 2 inches above ileocecal valve. Uninterrupted recovery. Diarrhea constantly present. Dog was killed with chloroform May 16, 1910 (169 days after operation). Necropsy showed kidney normal. No dilatation of ureter or pelvis. Valve perfect. Kidney same size as other which had not been implanted.

Dog 2. Preoperative condition good. One ounce castor oil twenty-four hours previous to operation. Operated on Feb. 24, 1910. Left ureter implanted in colon about 8 inches above anus. Refused to eat for about a week after operation, then took food and steadily improved. Diarrhea constantly present. Dog was killed May 16 (eighty-one days after operation). Necropsy showed kidney of the implanted ureter decidedly smaller than the other and having an indurated point at its upper pole. A like point of induration was found in the other kidney. The intestine was clamped above and below

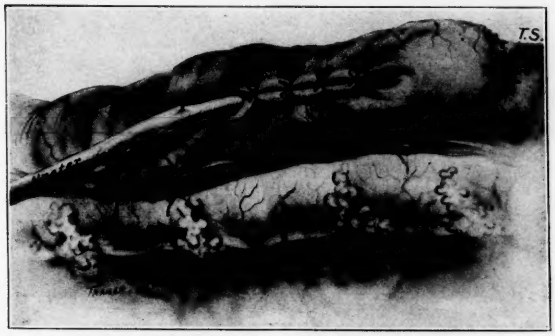

Fig. 4.—Duct has been implanted and anchored at its end inside intestine by tying traction suture T.S. Peritoneal sutures have been tied. Anchor sutures being placed to fasten duct to peritoneum.

the ureteral implantation, an incision was made in the ureter and fluid introduced into the intestine until it was dilated under pressure (Fig. 7). The nozzle was removed and no fluid returned through the ureter (Fig. 8). (Test used to prove efficiency of valve in other cases.) Pressure was made on intestine with the hand, and still not a drop of fluid returned through the ureter, showing that the valve acted perfectly. Both kidneys were split, exposing the pelves. The small kidney appeared as healthy as the other and its cortical substance as thick. There was no distention of the pelvis or of the ureter. A good-sized probe passed easily from the intestine up the ureter. We are at a loss to know whether this kidney was normally smaller than the other or whether this dog during the first week after operation when he refused to eat had a slight infection which he overcame. The perfection of the valve, the healthy kidney substance and the absence of dilatation led us to believe that it was a normally smaller kidney.

Dog 3. Preoperative condition good. One ounce castor oil twenty-four hours previous to operation. Operated on Feb. 24, 1910. Left ureter implanted into the large intestine about 8 inches above anus. Dog died March 3. Necropsy showed general peritonitis probably due to infection from faulty aseptic technic at operation. Specimen showed implantation perfect, no evidence of leakage, no obstruction and no distention of ureter.

Dog 4. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Operated on Feb. 25, 1910. Left ureter implanted into the rectum about 8 inches above the anus. Perfect recovery, with no clinical signs of trouble. Diarrhea constantly present. Dog was killed with chloroform on May 16 (80 days after operation). Necropsy showed the bladder firmly attached to the site of operation and to ureter for some distance out. These adhesions drew the ureter into a sharp kink, causing hydronephrosis with marked dilatation of the pelvis of the kidney. Urine clear and healthy. On opening the intestine and cutting the bladder adhesions the urine was squeezed out of the kidney and ureter in a distinct stream. The valve was perfect and a good-sized probe easily passed from the intestine up the ureter. Hydronephrosis had no relation to implantation, but seemed to have been caused by adhesion to the bladder.

Dog 5. Old dog, fat, condition poor. Two ounces castor oil twenty-four hours previous to operation. Operated on Feb. 25, 1910. A great deal of extraperitoneal fat was present, making it difficult to find ureter. Planted left ureter into the rectum about 8 inches above anus. Dog died March 10 (13 days after operation). Diarrhea had been constant up to time of death. Necropsy showed no dilatation of the implanted ureter. The valve was perfect. A probe passed easily from the intestine into the ureter. Kidney normal. There was no evidence of peritonitis and no cause could be assigned for the dog's death except his age and condition at the time of operation.

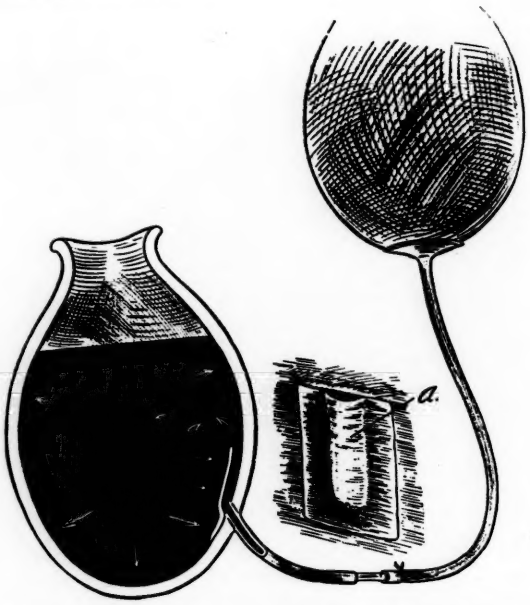

Fig. 5.—Filling with fluid rubber bag, in which pocket valve has been made; *a*, pocket valve. Arrows indicate direction of pressure.

Dog 6. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Operated on March 1, 1910. Left ureter implanted into the rectum about 8 inches above anus. Uninterrupted recovery. Diarrhea constantly present. Right ureter implanted on May 3. The anchor-stitches were forgotten. Uninterrupted recovery from operation. Appetite began to fail May 14 and dog looked sick, so he was killed with chloroform. On opening the abdomen a number of loops of intestine were found adherent around the point of the last implantation. On separating these loops from the rectum a space was found which connected directly with the intestine by a fistula and into which the ureter was emptying. The ureter had evidently been partially pulled out and the intestines had come to the rescue by covering in the leak. This kidney, the right one, was much congested, larger than the other and its ureter somewhat dilated and thickened. When the kidney was split the pelvis was found to be filled with pus. The left kidney, the ureter of which was implanted March 1 (seventy-five days before) was normal. Only a slight omental adhesion was present at the site of implantation and the ureter opened freely into the intestine, and was protected by a membranous valve. This case demonstrates the importance of placing the anchor sutures outside of the intestine.

Dog 7. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Operated on March 1. Left ureter implanted in rectum about 8 inches above anus. Dog died March 5. Necropsy showed that dog had pulled out stitches with his teeth and opened abdominal wound. Kidney and ureter normal. Probe passed easily into the intestine from the ureter. The end of the ureter which hung within the lumen of the intestine was dead but not sloughed. Dog had died of peritonitis following the opening of the abdominal wound by his teeth.

Dog 8. Preoperative condition fair. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 2. Rectum was still filled with fecal matter. Left ureter implanted about 8 inches above anus. Dog made uninterrupted recovery. Diarrhea constantly present. Dog was killed with chloroform May 14 (72 days after operation). Necropsy showed slight omental adhesions at site of implantation of left ureter. Right and left kidney presented the same appearance. Both healthy. Implanted ureter the same size as normal one, with no distention. A decided ridge on the mucous membrane of the intestine marked the underlying ureter (Fig. 10). A small child's urethral catheter was easily inserted in the orifice and up the ureter. The valve action was perfect, the ureter running for more than one-half inch under the mucous membrane.

Dog 9. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 10. Left ureter implanted into the rectum about 8 inches above anus. Dog died March 13. General peritonitis. Necropsy showed kidney and ureter normal. Ureter open. No evidence of leakage at point of anastomosis. Probably death was due to a flaw in aseptic technic.

DIRECT IMPLANTATION OF THE URETER INTO THE LARGE INTESTINE OF THE DOG

Dog 10. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 10. Implanted right ureter into rectum about 8 inches above anus. Dog ate a little meat March 15 and had some appetite until March 20, when he refused food and died March 22. Necropsy showed general and extensive peritonitis. Kidney infected. Duct enlarged to some extent. No specimen removed, as tissues were very much infected.

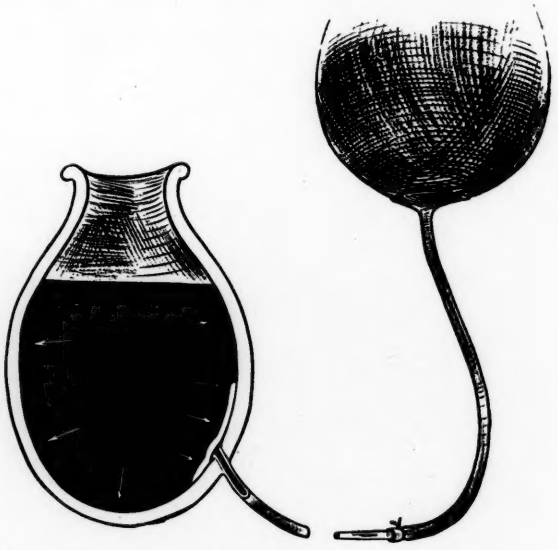

Fig. 6.—Rubber bag filled. Fountain syringe disconnected. Valve closed by pressure of the fluid as indicated by arrows.

Dog 11. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 11. Right ureter implanted in rectum about 8 inches above anus. Dog died March 13. Necropsy showed general peritonitis. Kidney enlarged and contained pus. Ureter dilated to some extent. Condition at site of implantation seemed to indicate leakage.

Dog 12. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Implanted right ureter into rectum about 8 inches above anus. Dog died March 13. Necropsy showed general peritonitis. Ureter was

found pulled out, whether in manipulating the intestine at autopsy could not be determined.

Dog 13. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 16. Right ureter implanted into rectum about 8 inches above anus. Technic good. Dog ate a little meat March 18 and 19. March 20, condition not so good. Dog very dull for about a week, then condition improved and he made a slow recovery. Dog killed May 16 with chloroform (sixty-one day after operation). The dog was not in so good condition as when first operated on, and not in so good condition as the dogs which had recovered from the physiologic implantation. It was noticeable that this dog had no diarrhea after fourteen days. Necropsy showed mouth of implanted ureter wide open and ureter slightly distended. Kidney was atrophied to the size of a black walnut and the cortical substance had entirely disappeared, leaving nothing but the pyramids and the capsule. Dog had apparently recovered from the infection, but the secreting portion of the kidney had been destroyed, hence the absence of diarrhea after fourteen days. Peterson noticed this contracted kidney in subjects which had recovered from infection.

Dog 14. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 16. Right ureter implanted into rectum about 8 inches above anus. Technic good. Died March 20. Necropsy showed general peritonitis; duct was pulled out of intestine. Abdominal cavity filled with pus.

Dog 15. Preoperative condition good. Two ounces castor oil twenty-four hours previous to operation. Dog operated on March 17. Right ureter implanted into rectum about 8 inches above anus. Dog died March 20. Necropsy showed general peritonitis. Abdominal cavity filled with pus.

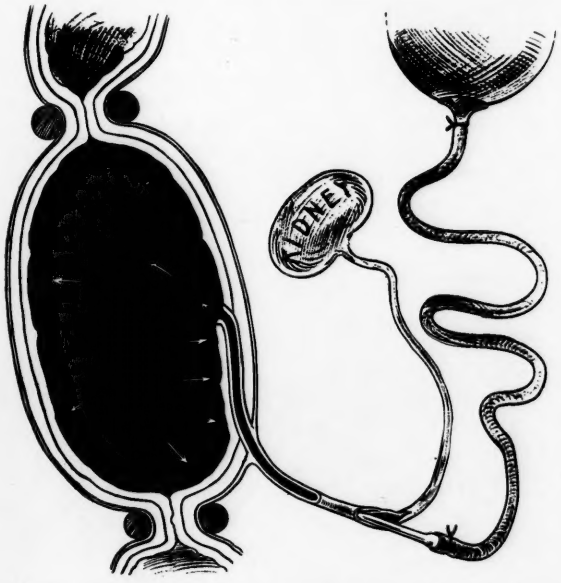

Fig. 7.—Filling with fluid a clamped section of intestine into which a ureter has been implanted by the physiologic method.

A SUMMARY OF EXPERIMENTS

In five dogs in which direct implantation of the bile-duct was done, all specimens showed marked dilatation of the duct without obstruction at the point of passage through the intestinal wall. Of four dogs in which the common bile-duct was implanted by the physiologic method, none showed dilatation of the duct. Of nine dogs in which physiologic implantation of the ureter into the large intestine was done, five recovered and were in good health 169 days, eighty-one days, eighty days, seventy-five days and seventy-two days after operation, when they were killed with chloroform. One dog died on the thirteenth day without discoverable cause, the implantation being found perfect. One died of peritonitis due to the opening of his own wound with his teeth. Two died of general peritonitis which apparently resulted from faulty aseptic technic. Of these nine dogs, a second ureter was implanted in one, at which time the peritoneal anchor sutures were forgotten, with the result that the ureter partially drew out, made an abscess, but still connected with the intestine by a fistula. In this case

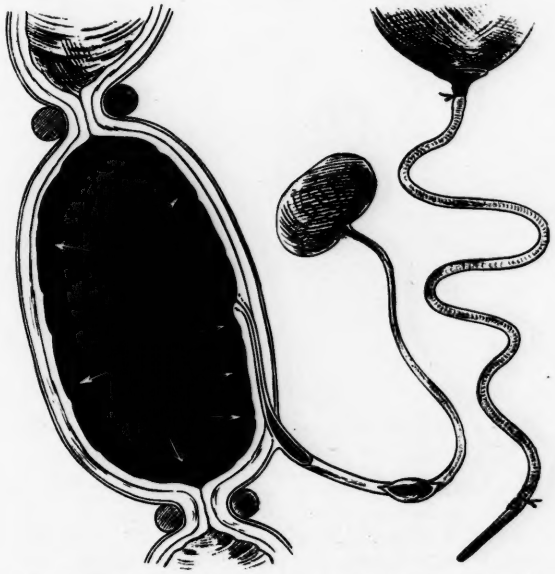

Fig. 8.—Physiologic valve closed by the withdrawal of the nozzle, entirely preventing regurgitation of fluid into the ureter.

the ureter was dilated and the pelvis of the kidney filled with pus, indicating the seriousness of omission of the anchor sutures. In one case the ureter in crossing through the peritoneal cavity to the intestine had been caught by an adhesion which kinked the ureter and produced hydronephrosis and distention of the ureter above this point. No distention existed below this point, and when the adhesion was broken the urine from the hydronephrotic kidney was easily forced out through the ureter into the intestine in a stream. The mechanical test shown in Figs. 7 and 8 proved that this valve was perfect, and the fact that the urine in the kidney and ureter was clear proved there had been no ascending infection. Therefore, in not one of the nine cases in which the complete operation as described in this paper was performed did ascending infection take place.

Of the six dogs which were operated on under exactly the same conditions but in which direct implantation of the ureter was done, five died within a few days after the operation from either peritonitis or ascending infection. The surviving dog was fairly healthy after the lapse of sixty-one days, when it was found that all of the secreting portion of the kidney had been destroyed, leaving nothing but a shrunken bunch of connective tissue and the pyramids, notwithstanding the fact that the ureter, as it entered the intestine, was patulous. This last series of direct implantations compare favorably with all of the other experiments which have been made, as will be shown by the statistics which will be given later.

We must admit that the mortality rate, even of the physiologic implantation, is much too large as applied

to patients; but when our work is compared with the work which has been done by other methods there is much encouragement in this report. After we were fairly launched into the work, we secured a complete bibliography and abstract of the principal articles. The literature of this subject is voluminous. More than two hundred and forty articles have been written on the subject. Many methods have been used. The literature has been repeatedly summarized and reviewed; consequently we will not review it in this paper except to quote the conclusions of a few of our predecessors, and will not describe any of the methods. Few subjects have

Fig. 9.—Probe in membranous valve at the mouth of the ureter in a fresh specimen of a dog's bladder.

called out more experimental work and there is no field which has been more baffling and discouraging. This is especially true of the experimental work on dogs; in fact, most reviewers have reached the conclusion that all implantations of the ureter into the large intestine in dogs, if not followed immediately by sepsis or pyelonephrosis, later develop ascending infection or stenosis. Operations on patients have been much more successful, if we are to accept the records of the literature. This is especially true of those cases in which the Maydl operation of transplanting a portion of the bladder with the ureter has been performed, but as this operation is not often applicable where we need it most, namely, in carcinoma of the bladder, we must look still farther for a successful method of implantation.

Carl Steinke,[1] in an article written in 1909, has given the most complete summary of all the literature concerning operations on patients up to that time. His conclusions are as follows:

> Of the thirty-five cases recorded above [in his article], two have no statement as to whether the patient lived after the operation. However, fifteen are reported as recovering and eighteen resulted fatally, making a general mortality of about 54.5 per cent. Two cases died of tuberculosis of other organs, thus making the mortality from the operation and its effects 55 per cent. Of the fifteen cases reported as living, two are unilateral implantations and the unilateral cases are really no test, as there still remains one good kidney to carry on the function. This leaves thirteen of the twenty-seven bilateral cases reported as living after four weeks or more, making a mortality of 55.5 per cent. These results show that under certain conditions the ureter may be transplanted successfully. The ultimate results are, however, uncertain, and fatality is apt to occur under the best circumstances.
>
> Experiments on dogs have proved that it is possible for the kidney to recover from the pyelitis, and this may have occurred in some of the above-mentioned cases. However, it has been shown that for routine usage, the present methods for simple ureteral implantation are inadequate and the operation is not likely to become popular.

1. Steinke, Carl: Univ. Penn Med. Bull., 1909, xxii, 110.

The Maydl operation is attended with much better success. Peterson collected reports of thirty-six operations performed on patients by the Maydl method, which uses a part of the bladder with the ureter. Five deaths occurred, making a Maydl mortality of 14 per cent. Of those recovering from the immediate effects of the operation, two died within fifteen months of pyelonephritis, bringing the mortality up to 19 per cent. The sphincteric control of the ureter over the urine was mentioned as satisfactory in twenty-four out of twenty-nine cases, and Peterson concludes that of all the operations yet devised the Maydl method is the most satisfactory. Steinke also reviewed the work which had been done on the dog. After summing up the experiments which had been done on dogs, giving them in more or less detail, he says that the literature reports 134 bilateral and 77 unilateral implantations. Of the unilateral type there were 26 recoveries and 51 deaths, thus giving a mortality of 66 per cent. Most of the deaths were from peritonitis or a complication of peritonitis and pyelonephritis. A number of the surviving dogs were killed later and in every instance pyelonephritis or its results were found. Of the bilateral cases there were 117 deaths out of 134, or a mortality of over 87 per cent. Nine of the seventeen successful cases showed pyelonephritis later on (one or both sides), from which the animals would probably have died, and thereby raised the percentage of mortality still higher, if they had not been killed earlier. The faults in most instances were from peritonitis, pyelonephritis or an association of the two. Other causes of death were hydronephrosis, uremia, and hemorrhage. Most of the dogs did not live long enough to develop stenosis of the ureteral orifice. If those animals which recovered had been examined later, stenosis of the ureteral orifice with hydroureter and hydronephrosis or pyelonephritis would probably have been found. Martin's thirty-four cases are not included in

Fig. 10.—Probe inserted into the membranous valve protecting the mouth of a ureter which has been implanted into the large intestine of a dog seventy-two days.

the above summary, as he did not state in each case whether the unilateral or bilateral method was employed. There were thirty-one deaths, the cause being about the same as in the other experiments. These, if added, would raise the mortality still higher. In contrasting the results on human beings with those on dogs, it has been proved that the difficulties to be met are much greater in the case of dogs and the mortality is much higher. Steinke's reasons for this are: (1) the dog's ureter is much smaller; (2) the large bowel of the dog

is more rigid and the musculature greater, thus causing the stitches to pull out; (3) asepsis is more difficult to obtain; (4) the bacteria of the dog's intestine may be more virulent, thus causing more severe peritonitis. Steinke concludes this article as follows:

In view of the generally discouraging results from the records of the operations on human beings and from the records of experimental work, we feel that specific conclusions are difficult to draw and would be of doubtful value. We would emphasize again the particular nature of the problem and the fact that so many difficulties must be met in every attempt. A careful consideration of the summary of surgical work on the anastomosis of the ureter with the intestine leads, we think, to the conclusion that the problem is one of physiologic and surgical mechanics, and as such should remain open to solution.

Dr. Reuben Peterson of Ann Arbor, who has probably done more experimental work along this line than any other man, in an article written in 1900, after reviewing the literature and making statistics similar to those given by Steinke, reaches the conclusion that the best technic is that requiring the least amount of suturing of the ureters themselves. Connell, who has done a great deal along this line, believes that all cases of ureteral implantations into the rectum in dogs ends with death either immediately or later of ascending infection.

CONCLUSION

After going over all the literature which has been written, I find that the patients who have had the ureters transplanted by direct methods have shown 55 per cent. mortality. Dogs operated on by the same method have shown a mortality varying from 66 per cent. to 100 per cent. The former usually represents immediate operative mortality. A large percentage of this mortality, both in patients and in dogs, has been due to ascending infection. The mortality is very much greater in dogs than in human beings and some who have investigated the subject are of the opinion that all animals in which the ureter has been transplanted sooner or later develop ascending infection and other complications. Our experiments with the direct implantation are in exact accord with all those who have preceded us. The experience with physiologic implantation is much better. Ascending infection seems to be nearly eliminated as a danger, and if the physiologic method should prove to be as much better than the direct method in patients as it has in dogs it seems safe to assume that the mortality in the human being should be reduced to a point which would make the operation justifiable and would thereby save the lives of many patients suffering from carcinoma of the bladder who now die for want of proper methods of dealing with the ureter.

667 Gilsan Street.

ABSTRACT OF DISCUSSION

DR. ARTHUR G. SULLIVAN, Madison, Wis.: I have been carrying on similar work for a year or eighteen months. While Dr. Coffey's work has dealt with both the ureter and the bile-duct, mine has had to do chiefly with the bile-duct. Ureteral work is a matter of present endeavor. Dr. Coffey's aim was to make a physiologic implantation of the ureter or bile-duct. My work had the same thing in view, but also took in the reconstruction of these passages after artificial destruction. Dogs were used for my experiments, and the technic employed was about as follows: The common duct was ligated high up and cut across. A cholecystectomy was almost invariably done at the same time. A rubber tube was then inserted into the ductus hepaticus and brought down on the gastrohepatic ligament on its anterior surface. At the level of the ampulla of Vater, a slight incision was made in the duodenum, and the tube was pushed in, so that it projected into the lumen of the intestine for two inches. At the point where the rubber tube penetrated the bowel wall, the intestine was repaired, so that the incision closely encircled the rubber tube. A suitable area of omentum was traumatized lightly with a dry sponge. After the omentum has been approximated, it was sutured so as to form a roof over the tube. About three weeks later, I opened the dog's duodenum, grasped the tube with thumb forceps and drew it out. The ease with which the tube slipped out suggested that the peristaltic action of the intestine could well supplant the second operative procedure. Commonly a small sponge was attached to the end of the tube and the same technic was employed, so that the peristaltic tug withdrew the tube as soon as the restraining ligatures were absorbed. Seven or eight operations like this were done, using tubes and sponges, and the animals all did very well. I killed all the animals—the oldest four and one-half months, and the youngest four weeks after the operation, and the results in all were good. On analyzing the steps of the operation, it is at once apparent that the surgical details are all more or less accepted. In one dog I inserted a rubber tube, with the idea of keeping it there permanently, and consequently the tube did not have a sponge-tipped end. I had to operate because of a strangulated hernia fourteen months later, and I found that the tube had been passed and that the bile was discharging through the intra-abdominal sinus as expected.

DR. J. W. D. MAURY, New York City: We have done a great deal of this work at Columbia, always using animals. Probably not all members of this Section have been able to follow the attacks on animal experimentation that have been made in New York; were it not for the activity of two or three members of the profession in that state, a bill would recently have passed the legislature which would have made it impossible for us to do any more of this work except under the strictest and most annoying restrictions. I would ask physicians of other states to use their utmost vigilance not to allow any antivivisection bill of whatever nature to be presented to the legislatures without immediate protest. Those of seemingly mildest form are most dangerous. The efforts of the well-meaning persons who are opposed to this work will be centered in some state where there is not very great medical activity; therefore, I hope that physicians will not fail to watch the legislatures.

DR. R. C. COFFEY, Portland, Ore.: In all our work on animals, we have invariably given one and one-half grains of morphin before beginning to operate, so that there was no struggling even while giving the anesthetic. Every animal is anesthetized, so that there is no trouble whatever. The police visited our laboratory and found nothing wrong with it. We have a good, healthy climate in Oregon, and we do not know anything about these neurasthenics who usually constitute the class of agitators known as antivivisectionists. I appreciate Dr. Sullivan's work. If there is a field for something new, it is right here. It is most embarrassing for the surgeon to be confronted by a bile-duct which has been destroyed, and to see all the bile pouring out of the abdominal cavity. It means certain death. I shall try Dr. Sullivan's method at the very first opportunity, preferring, of course, to try it out on animals as he has done.

Characteristics of Spirochæta Pallida.—The study of some of the characteristics of *Spirochæta pallida* is very interesting. In new and untreated cases the spirochetes are very active, never ceasing for a moment to keep up some kind of movement, and though, as a rule, their position in the field is unchanged, should some foreign material come in contact with them, they will get a purchase on it and run it down its length or cast the substance away, or very gradually, in a snake-like manner, pass on. This may be the means by which they reach the surface of a lesion. The movement of the spirochetes, as time elapses, will get less and less vigorous, never ceasing, however, until their death, when it terminates with the spasmodic jerk before referred to.—L. T. Price, in *Old Dominion Journal of Medicine and Surgery.*

CARCINOMA OF THE CECUM

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CHICAGO

History.—Mr. B., a retired farmer, aged 62, presented himself at my office complaining of pain in the abdomen, and alternate attacks of constipation and diarrhea. The personal and family history was negative. The patient had always been well, with the exception of having been confined to his bed for a few days, some years ago, on account of having been kicked in the abdomen by a horse. Examination of the abdomen revealed a mass about the size of an orange in the cecal region. The patient had observed the occurrence of ribbon stools.

Operation.—April 29, 1910, at the German Hospital, I did a laparotomy and found an extensive involvement of the cecum, appendix and adjacent glands. A macroscopic diagnosis of carcinoma was made and the following operation performed: The ileum was clamped and divided three inches from the ileocecal junction. The cut proximal end was closed and inverted like the stump of an appendix. The field was carefully cleared of a large number of diseased glands. The cecal mass was dissected away, and removed with some six inches of the ascending colon. The cut end of the colon was closed in the same manner as the divided ileum. A side-to-side anastomosis between the ileum and colon was then made. The wound was drained with gauze and gutta-percha.

Fig. 1.—External appearance of tumor and surrounding structures in case of adenocarcinoma of the cecum.

Postoperative History.—The temperature never rose above 100 F., nor the pulse above 90. The patient reacted from the operation without shock. Liquid nourishment was given on the second day; the patient had a formed bowel movement on the sixth and was allowed solid food on the twelfth. A fecal fistula developed from the inverted ileum on the tenth day after the operation, but closed at the end of the fourth week. With this exception the recovery and convalescence were uneventful. Six weeks after the operation the patient left the hospital apparently well, and remained well up to the time of writing this report.

Fig. 2.—Appearance of inside of bowel in case of adenocarcinoma of the cecum.

Microscopic examination showed the growth to be an adenocarcinoma. It is not possible to say whether or not the growth is of appendicular or cecal origin.

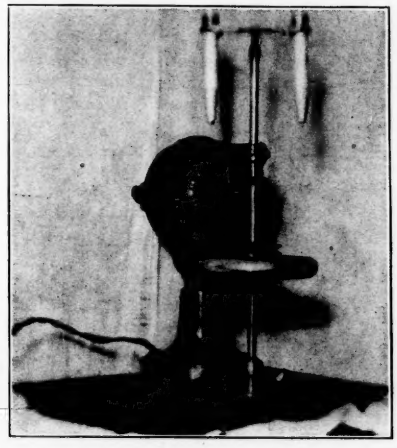
100 State Street.

A HOME-MADE ELECTRIC CENTRIFUGE

A. S. BRUMBAUGH, M.D.
ALTOONA, PA.

An ordinary electric fan can be converted into a satisfactory centrifuge in the following manner: The fan and guard are detached from the motor and the latter is firmly screwed to a solid board about a foot square. A set of bevel gears is obtained from the head of an old sewing-machine—the old-style Singer for example; or if no machine is at hand on which an autopsy is permitted, the gears can be obtained at small cost from the factory. One of these gears is attached by a set-screw to the motor-shaft; the other is attached to a steel rod

3/8-inch in diameter and 16 inches long. This rod is securely held in a perpendicular position in front of the motor by two brass bearings; the lower or end bearing is simply a brass block with a 3/8-inch hole drilled part way through the center and is screwed to the board on which the motor rests. A 3/8-inch ball bearing is dropped in the hole in the bearing, and the lower end of the steel rod is slightly concaved so that it will rotate smoothly. The upper bearing is a brass cylinder one inch in



A home-made electric centrifuge.

diameter and an inch or more long, with a 3/8-inch hole through its center. This bearing is held in place by a V-shaped brace, made of a strip of iron 1/32-inch thick and about an inch wide, the apex of the V being rounded to fit around the bearing; this brace is fastened to the motor frame by two screws, one at each end of the V (the screws which attach the fan guard may be used for this purpose), and the bearing is fastened in the rounded apex of the brace with two small screws.

A sewing-machine balance wheel is attached to the upright rod between the two bearings and the arm carrying the sedimentation tubes is attached to the top of the rod. The arm and tubes of a hand centrifuge may be used. To eliminate vibration it is necessary to have the balance wheel centered perfectly on the rod and to have the bearings neatly fitted, and the bevel gears not meshed too closely. The bearings should be oiled frequently.

The entire cost of labor and material in thus converting my fan into a centrifuge was $3.50.

No doubt many physicians have electric fans in their offices which stand idle except for a few weeks in summer and could be profitably used the remainder of the year as centrifuges.

1405 Tenth Street.

Breast-Feeding of Infants.—Those who stop to think will realize that even partial breast-feeding favors an undisturbed digestion in the infant and a safer and more continuous development. Yet many a mother whose milk could readily be made to assist in the early nutrition of her infant is ignorantly advised or allowed to discard it for the greater uncertainties of total bottle-feeding.—T. S. Southworth, in *Am. Jour. Obst. and Dis. Women and Children.*

SYPHILIS IN CHILDREN

MY EXPERIENCE WITH SALVARSAN: IMMEDIATE RESULTS AND LATER TOXIC MANIFESTATIONS

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Attending Physician to the Children's Wards of the Sydenham Hospital, and Attending Physician to the Willard Parker and Riverside Hospitals

NEW YORK

In order to study the true value of salvarsan, I have selected three common types of syphilitic lesions most usually encountered in children.

1. A boy having syphilitic lesions in knee-joint, with infiltration, swelling, and pain on extension or flexion of joint. He was castrated for gumma of left testicle, several years ago.

2. A child with congenital syphilis having lesions (a gumma and condylomata) on vulva, around the anus. This patient was photographed before and one week after treatment, to illustrate the apparent benefit.

3. A girl with congenital syphilis, showing all evidence of malnutrition, having an enormous spleen palpable two fingers below the umbilicus, swollen glands in various parts of the body, a very large liver and icterus.

No patient was subjected to this treatment until a positive Wassermann and a positive Noguchi reaction were obtained. It was not easy, in Case 1, to demonstrate the spirochetes, although diligent search was made for them by Dr. Fred. Sondern.

In Case 2, the *Spirochæta refringens,* not the *pallida,* was found. For all Wassermann and Noguchi examinations, I am indebted to the courtesy of Dr. D. M. Kaplan, Director of the Laboratory of the Neurological Institute.

Fig. 1.—Margaret K., 18 months old, with congenital syphilis, before injection of salvarsan.

The blood was examined before and after the injection, and showed a slight increase in the polymorphonuclear leukocytes, also a slightly increasing leukocytosis.

In one case, in addition to a positive Wassermann, a positive cutaneous tuberculin reaction (Von Pirquet), by inoculating human tuberculin, was found, showing a notable though frequent association of tuberculosis with syphilis.

Clinical details were carefully studied by Dr. M. Freund, house physician of hospital, to whom I am indebted for painstaking supervision, in addition to

Dr. Heller, for additional clinical notes. The blood examinations were made by Dr. Gunzburg of the resident house staff.

The immediate result in all cases seen by me was a marked improvement. By improvement is meant the effect on visible gummata and condylomata. There was a general brightening up, and to all appearances a sudden change had taken place. In one case which I report the joint swelling improved rapidly, and the child was discharged greatly benefited after fourteen days treatment at the hospital. One injection was given, and no after-treatment. The patient reported to me weekly; and six weeks after the improvement above mentioned, I note an apparent change for the better.

Fig. 2.—Appearance of lesions before injection in same child.

REPORT OF CASES

The following cases have been attended by me in the babies' ward of the Sydenham hospital:

CASE 1.—B. L., 6 years old, was a former patient of Dr. Tunick. The mother had an innocent infection. The boy was born with lues, affecting various parts of the body. He had a gumma of testicle for which he was castrated. At present he has a swelling of the left knee-joint, which is thicker than the right joint. The superficial veins are very prominent, and the joint is immovable; evidently gumma-periostitis. The Wassermann reaction is positive, likewise the Noguchi. I am indebted to Dr. D. M. Kaplan for the serologic examinations. An injection of 0.3 Ehrlich-Hata given in a neutral solution, in the left buttock, with aseptic precautions, was not followed by local reaction. Marked benefit followed within forty-eight hours.

Repeated examinations of the urine showed no evidence of any abnormality.

TABLE 1.—EXAMINATION OF BLOOD BEFORE AND AFTER THE INJECTION (CASE 1)

Date.	W. B. C.	Polynuc.	Lymph.
10/26	12,200	80	20
10/29	15,400	78	22
11/ 1	16,200	75	25
11/ 5	16,000	78	22

CASE 2.—Margaret K., 18 months old, a breast-fed child, was referred to my hospital service through the courtesy of Dr. Henry Whitehouse, whose diagnosis was syphilis. The child was backward in development; could not walk but could stand; said only "mamma" and "papa." Falling of hair, enlarged superficial veins of scalp, marked pallor of skin, and hemic murmur of the heart, also heard in the carotids, were present. The child had snuffles. The epitrochlear glands were easily palpable.

On admission to hospital a diagnosis of gumma on the vulva, and condylomata on the vulva and anus was made. Wassermann reaction was positive, also the Noguchi. A smear taken from the surface of gumma was carefully examined by Dr. Fred. Sondern, who reported the presence of *Spirochæta refringens* but not the *Spirochæta pallida*.

The diagnosis being positive, an injection of 0.3 gm. salvarsan was given in the left buttock. Within twenty-four hours the swelling of the vulva and the gumma began to melt away, the swelling of other parts decreased and marked benefit followed.

A severe local infiltration followed with marked febrile reaction and swelling which subsided by local antiphlogistic treatment. It is almost impossible to credit sufficiently the immediate benefit noticed in the lesions, by those who saw the case from day to day.

This condition of improvement was suddenly changed to one of visible loss of power. This was more marked on the left side. At the site of injection, an induration was palpable and from a slight fistulous opening we expressed a yellowish-green mass resembling unabsorbed concentrated Ehrlich-Hata preparation. In addition thereto yellowish coagula resembling necrotic tissue was expressed. There was no Herxheimer[1] reaction present.

Toxic Manifestations.—In this case the visible lesions covering the vulva and labia disappeared and did not return. The muscles of the legs suddenly lost their tone; they were limp and flaccid. Marked trophic changes were noted as early as two weeks after the injection. On the left side the plantar reflex was absent and the patellar reflex was lost. There was progressive atrophy of the extensor and flexor group of muscles of the thigh, calf and leg. The infant seemed to have lost all strength. The sphincters of the bladder and rectum functioned properly. There was a slight drop-foot.

On the right side we had trophic changes involving the thigh and leg. There was also a soft flaccid condition of the muscles and progressive emaciation. The

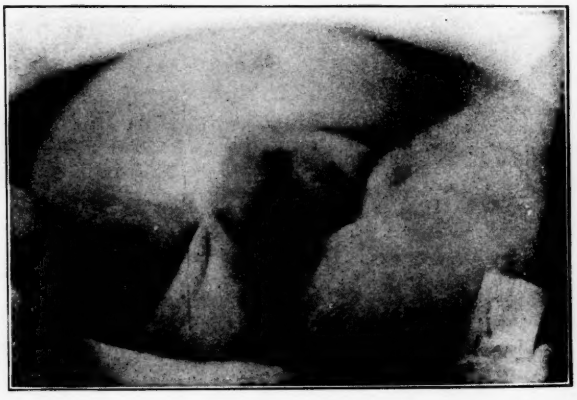

Fig. 3.—Appearance of lesions in same child one week after injection.

patellar reflex was lost, but the plantar reflex was present. The infant appeared absolutely helpless. The pulse was small and feeble, and the infant showed all the evidence of toxicity. We were certainly dealing with a toxic neuritis due to the injection of this remedy.

Such were the visible evidences of the toxemia. The heart-sounds were feeble and muffled, and a faint murmur was heard at the apex. The child was unable to hold its head up. There was marked anorexia. Owing to the cardiac weakness I ordered

1. The Herxheimer reaction consists in an increase of any and all exanthemata after an injection of 606, similar to mercurial treatment. Ehrlich believes that when this reaction occurs the parasites, instead of being killed, are simply being irritated and produce an increased quantity of toxin. This reaction is usually found when an insufficient dose has been given.

caffein, sodium benzoate, and hot salines to stimulate the circulation, in addition to concentrated food, such as yolk of egg with milk, and broth, and malt soup feedings. Massage and general faradization have been used almost one month with but slight improvement. There is a slight increase in weight, due no doubt to improved metabolism. The child appears sick, is listless, and also has excessive diaphoresis. The prognosis is dubious. She is still in the hospital for further observation.

TABLE 2.—EXAMINATION OF BLOOD BEFORE AND AFTER THE INJECTION (CASE 2)

Date.	W. C. B.	Polynuc.	Lymph.	Mononuc.
10/18	13,000	73	24	3
10/20	16,600	82	17	1
10/22	12,400	78	22	..
10/24	13,200	79	21	..
10/27	12,000	78	22	..
10/28	12,000	78	20	2
10/29	12,000	76	23	1
10/30	12,400	73	27	..
10/31	12,000	77	23	..
11/ 1	12,800	78	21	1
11/ 2	12,600	76	24	..
11/ 4	13,000	78	21	1
11/ 5	13,200	77	23	..
11/ 7	13,800	76	24	..
11/ 9	13,600	77	22	1

A comparison of the blood reports in Cases 1 and 2 shows a decided leukocytosis soon after the injection. This leukocytosis remained about two weeks in Case 1, until the patient was discharged.

In Case 2, still under observation, the apparent leukocytosis was soon lost, and the leukocyte count of 13,000 on admission to the hospital is now gradually reappearing. When the neuritis was at its worst the leukocyte count was at its lowest, 12,000, and with improved nutrition the leukocytes rose as high as 13,800. The urine showed the presence of albumin on several examinations.

CASE 3.—Helen K., 8 years old, has been under treatment for syphilis for two years. The epitrochlear and inguinal glands are swollen, the liver is very large and the spleen enlarged, extending to below the level of the umbilicus. The patient has various eruptions and nodules on tibia and radius, and cervical glands always enlarged. At present there is some icterus. The patient has been operated on for enlarged tonsils and adenoids by Dr. Freudenthal, and incised for various abscesses by myself. She has frequent ear discharge, and vaginal catarrh; has never been healthy. Wassermann and Noguchi reactions are positive. An injection of 0.3 gm. salvarsan was given in the left buttock with aseptic precaution. The condition of the child is excellent, although the liver and spleen are not noticeably reduced in size. The appetite is good.

It is four weeks since the treatment was begun in this case. There is still a local infiltration and an induration of the buttock which has not become inflamed but is still a reminder of the injection given.

In each of the three cases a single injection was given. This preliminary report is submitted as an unbiased clinical study, and the patients are still under observation. One of them, Margaret K., is still in the hospital, six weeks after the injection.

CONCLUSIONS

From a study of the foregoing experience the following deductions are justified:

First, the toxicity may be due to a hypersensitive body, possibly an idiosyncrasy.

Second, the dose of the drug (0.3 gm.) is too large for children and hereafter I shall advise no more than 0.1 of the Ehrlich-Hata preparation, the dose not to be repeated for at least several weeks, or until we are justified in assuming that there are no systemic symptoms associated with the first dose.

From my present experience I would strongly advise against the injection of ambulant patients, but would require the injection to be given either in the hospital or in a sanitarium, where proper medical supervision and competent nurses can supervise details, and note toxic symptoms as early as possible.

162 West Eighty-seventh Street.

LIFE AND HEALTH AS NATIONAL ASSETS *

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MINNEAPOLIS

Short-sighted humanity fails to appreciate Nature's gifts until threatened with their loss. This is true of even the greatest of her gifts, life itself. Although belated in our realization of the threatened overdraft on Nature's storehouse, a compensatory and irresistible enthusiasm has developed within the last two years which augurs well for the retention by our country of that international leadership so manifestly foreordained by Nature's bountiful equipment.

It is significant of our failure to value health, which above all other considerations makes life worth the living, that the first meeting of the governors of states failed to provide for the study of health problems. The omission was noted and in the National Conservation Commission's Report of Jan. 11, 1909, in the general schedule, special consideration was given to life and health. The report itself deals with five different phases of conservation, namely, minerals, lands, forests, waters, and finally, national efficiency, or health. Only four sections, however, were created. Health was not provided with a special section or officers.

In the North American Conservation Congress called by President Roosevelt Dec. 24, 1908, in addition to the conservation of the national resources already mentioned, the protection of game received attention. This was an international commission representing our own country, Canada and Mexico, which reported from Washington, Feb. 23, 1909. Among the commissioners representing the various countries there was seemingly no one whose training and paramount interest lay in the field of public health.

While it is apparent that the initial oversight has been in part repaired, it remains to be seen what progress will result from the Second National Conservation Congress, in relation to this, the people's most important natural asset.

The inclusion in the program of a paper entitled "Life and Health as National Assets" must not be taken as evidence that there is any doubt as to the real and assessable value of life and health. Rather are we called on at this time to realize that they constitute national or public resources furnished by Nature and are not to be regarded as strictly personal or private possessions. The individual life has its economic and commercial value to the community and the nation by virtue of the contribution it may be expected to make to society. This view may perhaps be novel to some. Our ideas concerning conservation of our other natural resources, however, have undergone such rapid evolution in the recent past, that we may easily orient ourselves to the

* Read before the second National Conservation Congress, St. Paul, Sept. 8, 1910.

viewpoint exhibited by the officers of this congress, that the individual in matters of health as of other resources, must respect the rights of other individuals and of his municipality, state and government. The health aspect of conservation, which is its most important aspect, cannot and will not be neglected, although it has not been the first to which the attention of the nation has been directed.

Nor can we dissociate health conservation from the other aspects of the movement even if we would. The history of man's progress in knowledge of the natural sciences bears out this statement. Even though we ourselves have broken faith with Nature, we are able to-day to make her fulfil her promises in forestry, agriculture and other economic matters by the application of our knowledge of those very sciences which may be said to owe their birth to man's search for perpetual life and youth.

One can easily imagine that the medieval conservation commission comprised two sections, one on health and the other on minerals. In the former, which undoubtedly was basic and dominated all other considerations, the papers presented dealt with "elixir of life" and the touchstone, while in the latter the chief interest was displayed in the transmutation of metals.

At this stage the studies of health and of the control of man's so-called material assets were carried on hand in hand, and if we are logical they always will be.

In any event man's health depends on the success of his effort to adapt his environment to his needs more than in adapting himself to his environment. Health interests are fused with social and economic development, but should undoubtedly dominate rather than be dominated by them.

OBSTACLES TO PROGRESS IN CONSERVATION OF HEALTH

Our lack of interest in matters of health is more apparent than real. It is characteristic of many of us that where our most vital interests are involved we betray the least public concern. In nothing is this better exemplified than in our matters of personal and public health, except, perhaps, it be in matters of religious belief and practice. Nor should we deem it strange that a similar attitude of mind obtains in matters of health and religion.

In ancient times the priest and the physician were one. At the present day aboriginal tribes combine religion and health, and to too great an extent perhaps do our civilized nations fail to discriminate between the two. Particularly is this exhibited in man's cowardly attempt to shift his responsibility for disease and death to Providence.

One of the greatest causes of lethargy in the conservation of personal and public health is the failure on the part of many to differentiate clearly and sharply between disease and death. The former is really a manifestation of life and vital force and is capable of modification, prevention or cure by human agency, since man has shown himself quite able to solve Nature's other secrets for the benefit of his comfort or convenience. We conserve health by the application of the same sciences which enable us to conserve our other better recognized but less material natural resources. Disease yields to man's mastery while death remains man's mystery. Even death may, however, be postponed, and Prof. Irving Fisher has estimated that over 600,000 deaths occur each year in our country which could be postponed by systematic application of scientific knowledge already available. For those who think more easily in terms of dollars and cents he has estimated this appalling annual national loss at over one billion of dollars which can and should be prevented.

We must not be lulled into a sense of well-being by such statistics. There is no royal road to such a goal. Our very success in the eradication of one disease or insanitary condition may lead to undue optimism in regard to other problems which later may be found to be dependent on altogether different causes and to require very different methods of prevention or cure. Failure to realize the complexities of modern social activity and economic development in their relation to health and at the same time to recognize the immense number of variable factors and agencies which are involved in health protective measures cannot but lead to disappointment. The individual whose enthusiasm is too easily aroused by the discovery of some hitherto unknown cause of disease or some new method or theory of cure or prevention is a source of danger to the commonwealth. The faddist, whether in the matter of such things as food, clothing, fresh air, baths, exercise or other therapeutic agent, is to be feared, as well as the individual who thinks that he has discovered the one cause of all diseases.

Our chief difficulty lies in coordinating the various forces and agencies which are essential to success in the eradication of sickness. There is no blanket method of preventing all diseases. Quarantine and fumigation are now found to have a more limited application. Vaccination, which is practically an absolute and the only reliable protection against small-pox, cannot be applied to such diseases as malaria, yellow fever and diphtheria. The use of antitoxin which prevents annually many thousands of deaths from diphtheria does not help us in many other diseases. Our knowledge of mosquito-borne disease which has reorganized life in Cuba, Panama and the Philippines is not of much practical use in our northern states. As there is no single cause, there can be no single method either of cure or prevention.

These considerations should not discourage us. They show us, however, the need of further study and the imperative demand for employing the services of trained physicians, biologists, chemists, engineers, statisticians, sociologists, educators and other experts, and of coordinating all their efforts. We must steer a middle course, avoiding on the one hand the Scylla on which those run who become discouraged in what they believe to be the face of the unknowable, and, on the other hand, the Charybdis of that fateful tendency to minimize the actual complexities of the present-day health problem. Fatalist and faddist are equally dangerous. It is fair to count on the same progress in the adaptation of physical, chemical, biologic, social and other sciences to the diagnosis, cure and prevention of disease as in their application to man's comfort, convenience and economic development.

It is clear that the efforts of all the various workers in the different fields must be coordinated and the difficulties of coordination are at once apparent. The forces and agencies may be roughly divided into international, national, state, county, municipal and institutional. Each one of these is capable of being subdivided still further into two classes, one of which is official or governmental and the other is voluntary. Improvement in public health requires cooperation and coordination of all of these. Successful public health administration consists largely in making individuals do what they do

not wish to do, or that of which they do not appreciate the necessity, for the good of themselves and others.

This brings us naturally to the consideration of another national weakness. We encounter some of the same difficulties in public health work that we meet in the exercise of our other public functions. Rampant individualism is of even greater danger in matters of health conservation than in other affairs of public concern, largely on account of the fact that health is too often regarded as a purely personal rather than our most important public asset. The individualist objects to authority in matters of health control. Consequently he resents dictation as to his personal action and fails to recognize the need for special training in health administration as in other branches of public service. We deliberately handicap ourselves by failing to recognize the necessity for employing those who have fitted themselves by special training, and by our unwillingness to maintain a proper relation between compensation and responsibility. Most of those who are engaged in public health service have no way of gaining experience except at the expense of the public and are too frequently removed by political change or semi-starvation just as they have succeeded in equipping themselves to be of the greatest possible value to their fellow citizens.

Public service of many kinds and particularly that which relates to the conservation of health in our country is all too often delegated to voluntary agencies which are thus forced to fulfil the functions which in other countries devolve on official and governmental agencies. This duty is nobly discharged. Their main function should be, however, to afford to the general public an object-lesson of what is needed and of how progress can be made. In this they rarely fail, although they labor under tremendous difficulty imposed by lack of authority. Funds which are furnished from private sources are frequently insufficient to permit of the employment of experts of the highest order. Public apathy, on the one hand, and the development of an abnormal interest on the part of voluntary workers on the other, frequently lead to their continuance long after they have ceased to be useful, with the result either that the public delays in the establishment of an official organization, or, if such an organization be established, there is conflict between the official and voluntary forces. If municipal health departments, hospital services, police departments, water, school, poor and park boards and other official servants and representatives of the people were supported by the people and were quick to see their opportunities, there would be less need of associated charities, visiting nurses, pure water and milk commissions, tuberculosis camps, playgrounds associations and other such voluntary organizations.

Had we found time apart from personal affairs, to consider and provide for public needs our federal and state authorities would have protected the people by the fixation of standards of preliminary and medical education and of medical licensure. This neglect of a plain public duty threw on the American Medical Association, the Association of American Medical Colleges and the Carnegie Foundation for the Advancement of Teaching the task of investigation and report on conditions in medical education which are now being improved through the force of public opinion rather than by law.

Is it not humilating that public lethargy made it necessary for Mr. Rockefeller to provide funds for the investigation and eradication of hookworm disease?

In Germany, the government, through its public health service and universities, provides for medical and other research, so that the nation has become a leader of the world in scientific health protection and scientific economic development.

In America those institutions which are best able to carry on medical research derive their financial support from private sources. We are gratified, however, to see the increasing tendency in our country to provide efficient scientific laboratories for the federal and state governments and in our state universities.

ARE AMERICANS ABLE TO PROVIDE ADEQUATE PROTECTION TO THE NATIONAL LIFE AND HEALTH?

Having seen some of the difficulties which stand in the way of satisfactory conservation of the public health we might perhaps ask ourselves what proof of the possibility of conserving this asset is available. If, at this day and time, the American public is unconvinced of the need and possibility of conserving public health, it is undeserving of the respect of other nations, or even of self-respect. The daily and weekly press, our magazines, and governmental and other publications have overflowed with information. Our attention was particularly called to the possibility of preserving the health of men in the field by Japan's experience in the recent war with Russia. Our life-insurance companies have been quick to see the practical possibilities of prolonging the lives of their insured and of thus increasing the earnings of the stockholders.

The report on "National Vitality, its Wastes and Conservation," which was issued by the American Association for the Advancement of Science, is a masterpiece. It was prepared and presented by Prof. Irving Fisher, of Yale University. The publications of the various committees of the American Medical Association, the speech of Senator Owen in the *Congressional Record* of March 24, 1910, as well as federal, state, municipal and other health reports afford examples of what can be done.

Those who may be skeptical in regard to the ability of our people to compete with the older nations in the prevention of disease should note what has been done by Americans under the greatest of difficulties. In Cuba our nation overturned the existing order of affairs and the scientific discoveries made and applied to sanitation by Americans afforded a lesson to the world. There has been no greater factor in winning the world-wide confidence of other nations than the production of the existing sanitary state of affairs in the Canal Zone by our own citizens. Our work in Cuba, Panama and the Philippines has served to bring about hygienic conditions in supposedly pestilential regions which are vastly superior to those which obtain at home.

What Americans have done for others they have failed to do for themselves, owing largely to the lack of provision of adequate official and governmental agencies and failure to coordinate those which exist. Two Americans in Porto Rico showed the possibility of stamping out hookworm disease. The brains were furnished by the United States and the money by the island. We have the brains at home but refuse to pay the bills.

It is manifest that a full and complete discussion of life and health as national assets is impossible within the limits of a single paper. No attempt need be made to present a complete basis either of comparison or differentiation of health conservation from the other aspects of the national movement. It must be clear to

all that in the conservation of lands, minerals, waters and forests, effort is made to prevent the individual from taking that which belongs to the public. In the conservation of public health, our effort must be directed to preventing the individual from giving to the public something which neither he nor it desires. This is particularly true of infectious diseases.

There are many other phases of public health than those which relate to infectious disease, but they cannot be discussed at this time.

I have the honor to be a delegate to this congress from both the American Medical Association and the American Public Health Association, which represent factors in the conservation of human life and health concerning which the public needs more information than it possesses, and with your permission I shall briefly mention a few important matters.

THE MEDICAL PROFESSION IN ITS RELATION TO PUBLIC HEALTH

In the past, individual physicians and local medical associations and societies have brought a scattering fire to bear on the inactivity and ignorance of the general public in matters which pertain to public health. The public fails to believe in the urgency of health needs when presented by individual or groups of physicians because of its inability to appreciate the motive which leads the physician to urge the establishment of machinery and the special education of officials as also the provision of laws and funds to carry on work, which to the casual observer would mean a diminution of the individual physician's work and income.

Physicians who have qualified by postgraduate training in bacteriology, pathology, epidemiology and in public health, hospital, school and institutional administration must be drafted into the direct and official service of the people. This need is increasingly apparent. Others are required who can present evidence of special scientific training in chemistry, engineering, statistical, sociologic, charity and other work.

At present, great as is the actual need, the demand on the part of the public and the remuneration offered are so small and the possibility of employment so uncertain that universities, technical schools and other institutions which offer special courses fail to attract students. The public seems to prefer as yet to jeopardize its most valuable asset by employing untrained public health servants who develop efficiency after instead of before their appointment. This means a payment in life and health instead of dollars.

The average individual seems willing to pay and pay well for a cure when he is sick. Communities pay the cost of epidemics and will even pay for engineering services in relation to public utilities, such as water-supply and sewage disposal, but this is usually done only under the stimulus of some recent or threatened disaster. They, like the individual, want a cure, not a protection. Clinical experts, life-insurance examiners, and consulting and commercial engineers are all sure of a good livelihood because they can help the individual or community out of difficulties. Sanitarians and municipal engineers are usually left to semi-starvation because their function is to prevent the same difficulties, without, however, having either available public sentiment or funds to enable them to do it.

Physicians are naturally skeptical of the scientific training and possession of proper ideals on the part of those who have not been especially trained in medicine and who may have failed to develop the "disease point of view." That they are, however, of a receptive frame of mind can be shown in many ways. The American Medical Association has a number of standing committees, including a Council on Medical Education. This Council, in the endeavor to raise the standard of medical teaching throughout the United States, has prepared a standard schedule of minimal requirements, through the agency of ten committees, each of which consists of ten representative men. One of these ten committees which had to deal with hygiene, medical jurisprudence and medical economics contained in its membership university and college professors of chemistry, physiologic chemistry, political economy, pathology, bacteriology and hygiene. There were also executive officers of state and municipal boards of health and representatives of the federal health service; while among the collaborators were engineers and many university professors. Bear in mind that this was a committee of the so-called "medical trust," the American Medical Association.

Through oversight for which no one is responsible, this second National Conservation Congress and the American Public Health Association are meeting on exactly the same dates, September 5–9, we in St. Paul and the Public Health Association in Milwaukee. This association consists of some physicians who are in practice, but more particularly of medical men who are trained as federal, state, municipal, and institutional administrative officers, as also of laboratory, statistical, engineering and other technical workers. The membership includes representatives from all of the leading universities and medical and technical colleges. It has three sections, namely, laboratory, vital statistics and municipal health officer sections and is organizing a sociological section. You are familiar with the work of many of its officers and members. Colonel Gorgas, who was responsible for the administrative health work in Cuba and who has made possible the building of the Panama Canal without undue loss of life, is a member. The late Dr. Walter Reed, who eliminated yellow fever from civilized communities, was vice-president. It is an international association in which Canada, Mexico and Cuba participate, and much can be learned by attendance at these annual meetings. One of its chief benefits has been the formulation of standard methods of scientific procedure applicable to the suppression of disease in various districts of the different countries.

We are compelled to admit that our neighbors from the north and south have much in the way of advantage which is denied to our own workers. In our sister countries, the tenure of office depends more on the fitness and training of the incumbent. As a rule, the compensation for public service is relatively higher and the official organizations are better provided with an authority which is commensurate with their responsibility than is the case in our own country.

Time will not permit of an extended discussion of these conditions, but the annual opportunity to compare notes, tell each other of our successes as also of our failures and to help in the formulation of new methods, and in an effort toward a higher standard of efficiency, is of untold value. This is, however, a purely voluntary organization maintained for over thirty years at the personal expense of its members in the face of public apathy. This will be realized if I ask "How many of you knew that we have such an association?" and "Did you know that it is now in session?"

There yet remain a few matters of which a general understanding would bring about yet greater coopera-

tion between the physician and the general public. The medical profession has realized for a number of years that its members must become teachers of personal hygiene to their patients and families, as also to schools and the general public. It is a new viewpoint and involves the assumption of new responsibilities. The doctor has guarded himself against publicity except through his professional societies and journals and to his students, though ever eager to furnish details of his own discoveries and to recount his failures as also his successes to those who could understand and sympathize. This kind of publicity has been regarded, however, by the lay public as a sort of soliloquy carried on in an unknown tongue, and intended for the mystification of that same poor public.

Why there should be any failure of the medical profession as a whole to be understood by the general public it is difficult to see. The general public is composed of individuals each of whom has a feeling of trust, affection and possibly of veneration for one or more members of the medical profession. Why then does the public, an aggregation of individuals, allow itself to become suspicious of the medical profession, an aggregation of physicians? Why does the public abhor and obstruct the physician in his study of anatomy, dissection and in autopsy on the human body? Why is there so much suspicion of the motives and work as well as denial of the benefits which accrue to humanity from animal experimentation, when it must be apparent to any right-thinking individual that the extension of a physician's knowledge is only possible by such means? Why must physicians from time to time be themselves forced to urge the necessity of making every hospital a teaching and research institution? A moment's thought would convince any one that if this be not done, and if medical knowledge be allowed to die out with this generation, there will be no skilled men available for the hospitals and patients of the future to which our children and children's children must look for protection. It must also be patent to all that the patients of the present day cannot possibly receive such effective care in a hospital in which medical research and teaching are not fostered.

Why should the burden of maintaining a high standard of entrance to the profession and of preventing dishonest, incompetent, ignorant, and untrained persons from assuming the responsibility of physicians be placed entirely on the medical profession when the object to be attained is the protection of private citizens and public health?

Physicians of the United States are now thoroughly organized. The public should rejoice in this, since it is an attempt to neutralize the narrowing effect of isolation and to foster an exchange of information which physicians offer freely to each other and publish broadcast to the world. County and state associations are affiliated with the American Medical Association, which numbers in its membership over seventy thousand physicians. Just as the individual physician's chief concern is the care of his patient, so that of the organized medical profession is public health and welfare. The medical profession is as a rule underpaid, but members spend their hard-earned money and a large portion of their time in efforts to benefit humanity, individually and *en masse*. It is the people's concern to demand a broad education and thorough scientific training of all students and practitioners of medicine, public and private. It is to their interest to see that every possible facility is afforded for teaching and that a rigid standard of teaching, examination, degree conference and licensure is maintained. Nothing is more exasperating for the physician of high ideals, whose length and breadth of sacrifice is known to none, than to hear the sneer directed at his profession for its effort to protect the public. The time has come when the medical profession is in a position to demand that the people exercise discrimination and protect themselves.

NATIONAL HEALTH DEPARTMENT

One of the first steps toward the betterment of our public health conditions is the coordination of the existing federal agencies in Washington, of which we are all so proud. When no logical reasons can be advanced in explanation of further delay, it is very discouraging to realize that this important matter again has been postponed.

At the Sixty-First Congress, various bills were introduced, including that of Senator Owen. In support of these bills appeared those who by special training and long experience are recognized at home and abroad as the highest authorities on public health. The whole nation is waiting to see what action her representatives will take to protect her most precious asset.

I should like to cite some sixteen reasons why the people of the United States should have a Department of Health, which were published by the Committee of One Hundred of the American Association for the Advancement of Science:

1. To stop the spread of typhoid fever through drinking sewage-polluted water of interstate streams.
2. To enforce adequate quarantine regulations so as to keep out of the country plague and other similar pestilence.
3. To supervise interstate common carriers, in so far as without such supervision they prove a menace to the health of the traveling public.
4. To have a central organization of such dignity and importance that departments of health of states and cities will seek its cooperation and will pay heed to its advice.
5. To influence health authorities, state and municipal, to enact reform legislation in relation to health matters.
6. To act as a clearing-house of state and local health regulations and to codify such regulations.
7. To draw up a model scheme of sanitary legislation for the assistance of state and municipal health officers.
8. To gather accurate data on all questions of sanitation throughout the United States.
9. To establish the chief causes of preventable disease and unnecessary ill health.
10. To study conditions and causes of disease recurring in different parts of the United States.
11. To correlate and assist investigations carried on in many separate and unrelated biologic and pathologic federal, state and private laboratories.
12. To consolidate and coordinate the many separate government bureaus now engaged in independent health work.
13. To effect economies in the administration of these bureaus.
14. To publish and distribute throughout the country bulletins in relation to human health.
15. To apply our existing knowledge of hygiene to our living conditions.
16. To reduce the death-rate.

In 1912 there will meet in Washington on the invitation of the President and the Congress of the United States, the International Congress of Hygiene and Demography. This congress meets triennially in the capitals of the world and brings together the leaders in health conservation who are officially delegated by the governments of all civilized countries.

We have many things to show them of which we can be justly proud. Our federal, state, municipal and other official health organizations, however, leave much to be desired, and it behooves us, in the few months still at our disposal, to prepare to show the visiting nations our methods and successes.

We need many other things, but due recognition and coordination of our federal health mechanisms is the first step, which, if we have taken it before the meeting of this international congress, will best enable us to profit by the experience of the world's experts there assembled.

Nature has been prodigal in her gifts to our nation. In no respect has she been kinder than in opportunities for health and efficiency. Her very prodigality has rendered us careless and extravagant.

It is high time that Americans do as well for themselves in health protection at home as they have done for themselves and others in Cuba, the Canal Zone, Porto Rico and the Philippines.

This demands the creation and maintenance of official organizations to amplify, extend and ultimately replace the work of our voluntary organizations whose lack of authority prevents complete success and whose continuance beyond the demonstrational stage or for other purposes than as a stimulus is an admission of American official incompetence which amounts almost to a repudiation of our belief in our own form of government.

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PICRIC ACID AND ITS SURGICAL APPLICATIONS *

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HISTORICAL REVIEW

Hausmann, in 1788, treating indigo with nitric acid, happened on a bitter yellow substance. Welter (1799) found a similar substance produced by the action of nitric acid on silk. Fourcroy and Vauquelin (1806) concluded that the two were identical, and Liebig (1827) and Wöhler (1828) established them as a definite chemical, calling it *Kohlenstickstoffsäure* (in French *acide carbazotique*). Laurent (1841) demonstrated it to be a derivative of phenol (carbolic acid).

The toxic properties of this chemical, later called "picric acid" from the Greek adjective "bitter," were investigated by Rapp and Föhr on dogs (1827). Braconnot (1830) introduced it into therapeutics in the treatment of intermittent fever. Dr. Bell of Manchester reintroduced it for the same purpose twenty years later, and it had for a time wide acceptance as a substitute for quinin, based on the clinical observations of Aspland. It came into general use in France, as well as in Germany, where it was also used and recommended as an anthelmintic. In America it was extolled by certain of the homeopathic school.

Its surgical application was suggested to Chéron (1876) by its power of coagulating albumin. Curie and Vigier (1877) recommended it for the treatment of wounds, but the drug was never properly appreciated until Thiéry, ten years later, worked out by a protracted series of observations, the advantages of the saturated aqueous solution. He had many followers, who have spread its fame to other countries, and into other branches of medicine. His critics insisted on the danger of poisoning from absorption, but to this he had the answer that if properly used there was no danger of toxic symptoms developing, and that it had never been known to cause death even when taken internally, although five attempts at suicide by its use have been recorded.

* A bibliography of the subject, omitted here for lack of space, is given in the author's reprints.

CHEMICAL PROPERTIES

Picric acid ($C_6H_2(NO_2)_3O\ H$) is a trinitrophenol, and may be made by dissolving phenol crystals in strong sulphuric acid and adding nitric acid. Its crystals are small scales or elongated plates or needles, pale yellow, odorless, intensely bitter. They melt and sublime if warmed gradually, but if heated rapidly or rubbed briskly they detonate. The potassium and sodium salts are explosive.

It is soluble in alcohol (10 per cent.) and ether (20 per cent.), but only slightly in water (1.2 per cent. at room temperature). It may be purified by precipitation from a boiling solution. Its watery solution is deep yellow, having a marked affinity for animal tissues and fabrics, which gives origin to its use as a dye. Stained surgical dressings may be burned without danger of explosion. It is cheap.

Absorbed in sufficient quantity, it causes a yellow discoloration of the skin, simulating icterus, as well as of the internal organs. Large doses (dogs) cause destruction of the red corpuscles, and hemorrhage and inflammation of the kidneys and gastric and intestinal mucous membrane. It is excreted chiefly in the urine as picramic acid. About 15 grains internally will induce a yellow coloration of skin, conjunctivæ and urine in man. If it is continued the urine becomes black and there is headache, vomiting and epigastric distress. Aspland gave 1 to 4 grains three times daily for as long as nine weeks, without distressing symptoms. The discoloration disappears in two weeks after the dose is discontinued.

ANTISEPTIC PROPERTIES

Concerning its antiseptic properties I have been able to find in the literature no definite information. It has been generally recognized as a mild antiseptic; it has been recommended internally for the purpose of arresting decomposition of urine in cystitis, and it has been advocated as a disinfectant of fecal and putrid albuminous matter; being without odor, it does not mask the odors of decomposition. In order to determine at first hand its bactericidal power, the following experiments were undertaken.[1]

EXPERIMENTS

The so-called rod-method was selected as being the best means of estimating the antiseptic strength of solutions used in surgical dressing. In this method the solution is tested out on bacteria which have been dried in air, in contradistinction to the drop-method, which tests the solution against bacteria in thin fluid suspension. The rod-method gives, therefore, an estimate of the power of penetration possessed by the solution, and as between the two methods it gives the slower reading.

1. The experiments were carried out at the bacteriologic laboratory of the Boston Board of Health, to the director of which I hereby express my extreme obligations. The experiments were performed with the aid and under the supervision of Dr. C. L. Overlander, instructor in theory and practice, Harvard Medical School, assistant in clinical pathology, Boston City Hospital, to whom I wish here to give grateful recognition.

A sterile saturated solution of picric acid at room temperature was employed. To serve as a control, as well as to give a basis of comparison with a commonly used antiseptic of known value, a solution of phenol in sterile water of analogous strength, namely, 1 per cent., was also employed.

As objects of the experimentation, fresh virulent cultures of *Staphylococcus aureus* and of *Bacillus pyocyaneus* were used, the staphylococcus representing the most resistant of the pus-producing organisms which the surgeon has to meet, and the pyocyaneus representing the milder secondary and saprophytic wound-infecting agents. The culture of *Staphylococcus aureus* was taken from a freshly opened breast abscess, and in order to increase its virulence was passed successively through three guinea-pigs, the last of which it killed in forty-eight hours. The pyocyaneus was taken in pure culture from an abscess in a horse, and was passed through two guinea-pigs, the second of which it killed in thirty-six hours.

The mode of procedure was as follows: Long glass rods were sterilized in test-tubes. To a twenty-four-hour growth of each of the cultures on agar a half dram of sterile water was added, and into this the growth was rubbed by a sterile platinum loop. Into these bacterial suspensions a sufficient number of the rods were dipped and placed in a frame to dry in the air at room temperature. After drying one hour, the rods were inserted into the tubes already prepared containing each about 10 c.c. of one of the sterile antiseptic solutions. After being immersed for the measured length of time, each rod was removed, rinsed off in a tube of sterile broth to wash away the excess of antiseptic, and planted on an agar slant. The broth and agar were both incubated ten days, when the final reading was taken. In case of doubt as to the identity of the growth, transfers were made to study cultural characteristics, as in this method there is considerable opportunity for contaminating organisms to enter. To guard further against error, the experiments were performed twice under identical conditions.

The accompanying table shows graphically the result of the experimentation. From it we conclude that a saturated aqueous solution of picric acid (1.2 per cent.) kills bacteria from a fresh virulent culture of *B. pyocyaneus* which have been exposed to the air for one hour, in a half minute, and bacteria from a fresh virulent culture of *Staphylococcus pyogenes aureus* in about two minutes, whereas a 1 per cent. solution of phenol under the same conditions takes about twenty minutes to kill *B. pyocyaneus,* and ninety or one hundred minutes to kill *Staphylococcus aureus.* That is to say, the picric solution may be considered about fifty times more active as an antiseptic than the 1 per cent. phenol.

MINUTES EXPOSURE	FIRST EXPERIMENT 10 DAYS INCUBATION								SECOND EXPERIMENT 10 DAYS INCUBATION							
	PICRIC 1.2%				CARBOLIC 1%				PICRIC 1.2%				CARBOLIC 1%			
	PYO.		STAPH.		PYO.		STAPH.		PYO		STAPH.		PYO		STAPH	
	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR	BROTH	AGAR
½			+	+	+	+	+	+			+	+	+	+	+	+
1			+	+	+	+	+	+			+	+	+	+	+	+
1½					+	+	+	+					+	+	+	+
2					+	+	+	+			+	+	+	+	+	+
2½					+	+	+	+					+	+	+	+
5					+	+	+	+					+	+	+	+
7½					+	+	+	+					+	+	+	+
10					+	+	+	+					+	+	+	+
12½					+	+	+	+					+	+	+	+
15					+	+	+	+					+	+	+	+
17½					+	+	+	+					+		+	+
20					+	+	+	+							+	+
22½					+		+	+					+		+	+
25					+		+	+							+	+
27½					+		+	+							+	+
30							+	+							+	+
35							+	+							+	+
40							+	+							+	+
45							+	+							+	+
50							+	+							+	+
55							+	+							+	+
60							+	+							+	+
70							+	+							+	+
80								+								
90															+	+
100								+							+	+

Table showing comparative antiseptic strength of a saturated aqueous solution of picric acid and of a solution of phenol of analogous dilution. The picric acid solution kills *B. pyocyaneus* and *Staphylococcus aureus* in approximately one-fiftieth the time required by the phenol.

CLINICAL

My first surgical application of picric acid was made five years ago as house officer in the Boston City Hospital, at the suggestion of Dr. Frederic J. Cotton. Since that time I have employed it on about 300 patients, ambulatory and bed cases, and in private practice. Never, either in infants or in adults, have I seen sufficient absorption to show in coloration of the skin or urine. I have used it with satisfaction in first, second and third-degree burns, and in fresh lacerated and granulating wounds and ulcers. It is my purpose here to describe the technic of its use, and the results of my observation of its effect, particularly in burns.

I have used practically throughout a saturated aqueous solution of the C. P. crystallized picric acid. The stronger solutions sometimes recommended in alcohol and water are momentarily extremely painful on large raw surfaces, and are of course more liable to be followed by symptoms of absorption. They have a place only in limited areas of first-degree burns and in dermatologic affections in which the skin is not broken. The surgical employment of the acid in the form of an ointment is illogical, in so much as its so-called keratoplastic properties are interfered with by the fatty base, and the powdered crystals also should not be used because of the grave danger of absorption, and because the characteristic action is produced only by the solution.

A convenient method of preparing a sterile saturated solution is as follows:

Boil water in a flask sufficiently long to insure the sterility of the water and of the interior of the flask. While still boiling add the estimated quantity of pure picric acid crystals (12 gm. to the liter, or 1½ drams to the pint), stopper with absorbent cotton and allow to cool. Any excess of the acid will settle as a precipitate on the bottom of the flask. The contents can be kept sterile indefinitely.

The solution should be applied on gauze. In case of a superficial burn of hand or foot, the part may be completely immersed in the solution for some minutes and the gauze dressing then applied, covered with sheet wadding and bandaged. Waxed paper or other material to prevent evaporation and render the dressing occlusive is of no advantage except to prevent the solution from soaking through and discoloring the bandage. To avoid staining the fingers, the wet gauze may be handled with forceps, or the hands may be protected by

rubber gloves or petrolatum. Sometimes it is cleaner to apply the gauze about the part and then to moisten it by pouring the solution on the gauze directly from the bottle. Ordinarily, scrubbing the hands in soap and water immediately after contact, with or without a preceding soak in alcohol or ammonia water, readily removes all but the faintest traces of yellow discoloration.

In fresh burns of the first and second degree, or superficial lacerated wounds, no preparation is necessary if the parts are tolerably clean. If the skin is dirty it should be gently washed clean with a gauze sponge dipped in soap and water, and then rinsed off with sterile water or a weak antiseptic solution. Any blebs which have formed may be opened aseptically at their most dependent point, and the contents expressed. One dressing usually suffices in these cases, unless the lesion is extensive. If a burn has received previous treatment with ointments, or a carron oil or other emergency application, this should be carefully wiped away, so as not to interfere with the action of the picric acid.

In burns of mixed degree the same principles are to be followed, except that wherever the subcutaneous tissue is exposed, more particular care should be exercised in rendering the lesion aseptic. If a small area of third-degree burn is well cleaned up at the start and is dressed aseptically, it will granulate without pus formation and dermatize rapidly. Third-degree burns covering an extensive area should not be treated by picric acid. Ordinarily one or two dressings will suffice to heal the first and second degree elements of a mixed burn, and after that the granulating areas can receive attention.

The treatment of granulating areas, whether fresh or chronic, by picric acid is successful only in proportion as the exudation of pus can be controlled. Areas of third-degree burn may be made to heal aseptically under picric acid with an even granulating surface without exuberance or purulent discharge, which dermatizes rapidly with a smooth and supple cicatrix and very slight scar contraction, and forms an ideal base for a Reverdin graft.

A chronic ulcer may, under proper circumstances, be cleaned up and freshened so as to respond similarly to picric acid treatment. If the lack of healing depends on interference with circulation, as in varicose ulcers, the patient should be kept in bed with the part elevated. The limb and ulcer should be scrubbed with soap and water and washed off with ether and 60 per cent. alcohol; exuberant granulations should be trimmed down, and the marginal epithelium, if callous, should be lightly curetted and an aseptic picric acid dressing applied. The dressing should be changed daily, with a repetition of the cleansing, until the purulent discharge has ceased. After this, the ulcer will dermatize rapidly under dressings every three to six days.

For superficial lacerated and incised wounds and abrasions the solution acts well. Such lesions, if not too extensive, after being cleaned up with some antiseptic, may be expected to heal under one or two dressings in four to six days. Septic blebs, such as frequently occur on the hands, in paronychiæ, from pinpricks, following burns and scalds which have not been attended to, and on the feet from chafing and bruising, respond readily to picric acid. If the tops are trimmed off, the pus wiped away with a cresol-soap solution and dried, one application of picric acid will usually suffice to form a new and substantial horny layer over the denuded epithelium—unless the basal layer has been destroyed and the subcutaneous tissue exposed.

The local action of picric acid solution has been the subject of considerable speculation. Its essential action may be referred to its power of coagulating albumin. Over any clean denuded surface it forms a protective, aseptic scab, by coagulation of the secreted serum, which seals up ruptured lymph-spaces, protects exposed nerve-endings, and splints the wound in such fashion that epithelial proliferation may proceed rapidly beneath, simulating Nature's method. This artificial scab protects against infection from external sources and promotes rapid and painless epidermatization.

In burns of the first and second degree, and other superficial lesions, the original dressing may be removed after three or four days and the wound will be found healed into a flat, pliant scar. If the gauze adheres to the scab it should be moistened with picric acid to avoid pulling away the scab, which may be softened with boric ointment and removed, or allowed to remain until it comes off—unless there is suspicion that pus is imprisoned beneath. If there still remain unhealed portions the dressing should be renewed.

It is essential that the wound be clean and aseptic at the time of the first application. Pus may become confined beneath a scab, or, in a lesion of considerable size, the gauze may become adherent at the edges by inspissation of the secretion and the pus collect under tension. In either case the lesion is likely to become converted into an ulcer. In third-degree burns, when doubt exists as to the sepsis or asepsis of the lesion, it is wise to inspect the original dressing within forty-eight hours.

In comparison with other commonly used dressings for lesions of this nature, picric acid solution stands out in marked relief as the only agent actually encouraging epidermatization. Oils and greases usually employed in burns are ordinarily far from aseptic, and they tend to macerate the tissues with which they come in contact and prepare it as a suitable medium for the multiplication of the bacteria which they themselves supply. Other solutions employed for their antiseptic properties, such as phenol, corrosive sublimate and cresol-soap solution, oppose epithelial growth in proportion to their antiseptic power, by their chemical action. Picric acid, on the other hand, is distinctly keratoplastic — it is bland, unirritating, definitely antiseptic, if properly used is non-toxic, and at the same time it promotes so rapidly the formation of epidermis from the basal layers that it has been said "with it one can create epidermis at will."

Pain, which has been noted with the stronger alcoholic solutions, is rarely present when the watery solution is used. Sometimes over an area of a third-degree burn of considerable size, smarting is felt on the first application, but this is momentary and not severe, and is followed by a complete and permanent analgesia.

CONCLUSIONS

The saturated aqueous solution of picric acid is incontestably superior to any other antiseptic surgical dressing at our disposal for the treatment of superficial wounds and lesions in which the rete Malpighii of the skin is not completely destroyed—particularly in first and second degree burns. It is cheap and simple in application and induces rapid regeneration of the skin without pain or irritation. Deeper lesions may be made to heal by the formation of a smooth, level, non-secreting granu-

lating surface, over which dermatization will proceed rapidly, or which will serve as an ideal base for the reception of Reverdin or Thiersch grafts. The mild toxic symptoms which have been reported as occasionally occurring will never be seen if reasonable care is exercised.

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COLITIS *

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That there should be such a conflict of professional opinion regarding the nature and concept of colitis is perhaps not surprising when we consider its protean characteristics.

The more experience one has in dealing with these cases the more likely is he to be convinced of the futility of attributing to them either a common origin or a constant pathology. The term "colitis," as here used, is intended, therefore, to include both conditions associated with catarrhal inflammation and those in which the disturbance in colonic function is dependent on a secretory neurosis. I have excluded, however, cases of gastro-enteritis, enterocolitis, and all conditions in which the colonic involvement seemed of secondary importance, as also the acute forms of colitis.

The statistics given are based on a series of 625 cases observed during my four years' residence at French Lick Springs. All have one feature in common, *viz.*, an excess of mucus and, with few exceptions, pain and tenderness along the course of the colon. I have not attempted a further classification under the headings of colica mucosa and intestinal catarrh, for the reason that while I believe that a certain proportion of such cases, as clinically observed, may be readily recognized as belonging to one or the other of these forms, there still remains a considerable number which, either for the lack of sufficient data or because of the coexistence of certain features supposedly characteristic of each of these types, cannot be thus differentiated with certainty.

ETIOLOGY

From the standpoint of etiology, neurotic influences, both hereditary and acquired, undoubtedly play an important rôle, for, with few exceptions, the evidences of a neurosis are present, yet I am by no means convinced that such influences are necessarily primary. Not a few of these cases have apparently had their origin in an intestinal catarrh occurring in early childhood, although the symptoms present have exactly corresponded to the classic descriptions of colica-mucosa. On the other hand, I believe that there are many which in their inception are simple secretory neuroses, are at a later period complicated by a catarrhal inflammation, the result either of fecal retention or of measures employed for its relief.

Of the patients whose cases are included in this report, forty-four were under 20 years of age, the youngest 3. Fifty-six were over 50, the oldest 78. The greatest number were between the ages of 30 and 40 years. The duration of the disease has varied from three months to twenty years, usually from two to six years.

* Read before the American Gastro-Enterological Association, St. Louis, June, 1910.

SYMPTOMS

In 87 per cent. the symptoms first observed were those of a disturbance of digestive function; in some it was attributed to the stomach, more often to the intestinal tract, particularly the colon. Fifty-four per cent. gave a history of constipation; in a majority of the cases, of the spastic variety. In 15 per cent. diarrhea was present more or less constantly, the number of stools varying, as a rule, from two to five daily. Frequently constipation alternated with diarrhea; in a few the stools were apparently normal.

Mucus, as has been stated, was present in all cases in appreciable amounts. In 36 per cent. it existed in the form of casts or tenacious inspissated shreds, showing evidences of pressure and retention. In the remainder, it was found in the form of small flakes more or less mixed with fecal deposit or in gelatinous masses sometimes passed alone. The appearance of the mucus was, however, most variable, not only in different cases, but in the same case at different times, so that very often it was without special diagnostic significance.

Colic was a prominent feature. In only 15 per cent. was this symptom entirely absent. In 35 per cent. it was described as slight or moderate in degree and in the remainder as at times severe. Neurotic tendencies, sometimes of the most manifold nature, were exceedingly common, as were also autotoxic symptoms.

Physical examination showed gastroptosis in 17 per cent. of the cases and enteroptosis in 24 per cent. The right kidney was palpable in eighty-four cases, the left alone in nine, and both kidneys in fourteen. Tenderness over the course of some portion of the colon was present in about 90 per cent. of the cases. Most commonly it was over the sigmoid flexure. Next in point of frequency was the cecum and then the transverse colon. Very often it included both the ascending and descending colon and in about 15 per cent. it was quite general.

Urinalysis showed indican in excess in 34 per cent. and urates in 27 per cent. Oxaluria was present in 19 per cent. and phosphaturia in 23. Other abnormalities of renal function were probably not more common than might be expected in a like number of cases of other diseases.

Among the other symptoms observed, that which was most frequently complained of was a disagreeable sensation in the abdomen, hardly amounting to actual pain and usually referred to the region of the descending colon or sigmoid. Gastric distention, eructations, burning, regurgitation, coated tongue, and a bad taste were common symptoms; nausea less so. Cardiac palpitation, arrhythmia, intermittence of the pulse and precordial distress were often a source of much anxiety to the patient, as were also vertigo, and unusual fatigue. Insomnia, migraine, and general neuralgic pains still further added to their discomfort. Mental depression of some degree was a very constant feature, in some instances amounting almost to hypochondriasis.

Many of these phenomena were probably merely the evidences of the underlying neurosis, but most of them, I believe, were the result of auto-intoxication, as they usually disappeared or were much mitigated as soon as the disturbance of digestion was relieved.

DIAGNOSIS

The diagnosis in typical cases of colitis is not difficult, although mistakes are common, and its significance is often overlooked, even when its existence is recognized. I am sure that this is true in a considerable number of

the cases I have seen, a majority of which have been referred by other physicians. Many of these patients have come with a diagnosis of appendicitis or gall-stones, some of them postoperative, yet the symptoms present were apparently the same as those which had existed from the beginning of the illness.

I am confident that operations of this kind would be undertaken much less frequently if every colitis patient were properly treated from the incipiency of the case, and that the results of these operations, when indicated, would be far better if more attention was given to the after-treatment of the colon.

Fecal examinations are an important part of the investigation of these cases and in those reported such examinations have been the rule. Most frequently, they have been macroscopic only, but in a considerable number, microscopic and chemical as well.

It is easy to determine, so far as the individual case is concerned, whether the difficulty in digestion has to do chiefly with the fats, proteids or carbohydrates, when the patient is on his ordinary diet, and the information thus obtained is sometimes more valuable than when a systematized diet is employed.

While a very cursory inspection will suffice to determine the existence of mucus, its character and amount, the color and consistency of the stools, presence of intestinal sand, blood, worms, and the grosser evidences of undigested food-products, to form an accurate opinion of the digestive function, a microscopic examination should also be made and in many cases it is desirable to employ a test diet such as has been recommended by Schmidt.

While attaching much importance to the results of examinations of this kind, I would also emphasize the point that the results, to be of practical value, must, as in all laboratory investigations, be considered in connection with the clinical history and physical signs.

COMPLICATIONS

Among the various conditions complicating colitis, gastric disorders were decidedly the most common. In only 18 per cent. of the cases was there an absence of such symptoms, although very often they were comparatively slight. Examinations of the stomach contents were made in most of the cases in which such features were at all prominent, as I believe they are not only of value from the standpoint of diagnosis, but more especially for the information they afford as regards the diet. Of these cases, gastritis was present in 15 per cent. and hyperchlorhydria in 28 per cent. Sixteen cases showed achylia gastrica. In many of the remaining cases, no particular abnormality was apparent. Appendicitis was, or had been, present in seventy-eight cases; in thirty-four it was postoperative. Symptoms of cholelithiasis existed in forty-two cases, in nine of which operation had been performed. Gouty manifestations were of very frequent occurrence, usually of an atypical form. Cutaneous eruptions, such as eczema, urticaria, acne and psoriasis were comparatively common also.

TREATMENT

The treatment will, of necessity, vary with the indications present. Patients differ so radically in the prominence of different symptoms, in the state of nutrition, in their response to psychic impressions and in the manifestation of idiosyncrasies towards certain kinds of food, to say nothing of the innumerable influences of environment and habits of life, that one must be guided largely by general principles.

Whether we take the view that the indications are to be sought solely from the side of the neurosis or that we should take some cognizance of the digestive symptoms, more than to stimulate intestinal peristalsis, one thing is certain and that is that we shall not succeed by medication alone. I do not hesitate even to say that on the whole medicines are likely to do more harm than good.

Here, as in other diseases, the important thing is a recognition of the influences that have caused it. Our patient has not been living correctly or the condition would not exist, and we should be just as painstaking in our investigation of questions pertaining to his environment, his diet, and his habits of life generally, as we are in obtaining data on which to base a diagnosis.

If the case is brought to us at a time when the only evidences of the trouble are the presence of mucus and pain, plus certain neurotic disturbances common to other functional neuroses, the treatment would not differ materially from that which would be applicable to neurasthenia without special intestinal involvement.

So far as my own experience goes, however, such uncomplicated cases as these are the exception and not the rule, for even though there may have been a simple neurosis in the beginning, evidences of other disturbances of digestive function and not infrequently changes in the organs themselves are likely to follow in more or less rapid succession.

Ordinary hygienic measures, such as fresh air, exercise, rest, baths, etc., are always applicable and if, as is generally the case, the nutrition is below par, we must see that the diet is sufficient in quantity to meet these requirements; but to accomplish this it is necessary that it be of a quality that will not overtax the digestive capacity.

While I am confident that much harm is often done by concentrating the patient's attention on dietetic details, and that the prolonged and frequent use of enemas and other local treatments may act unfavorably in the same way, I am equally positive that when judiciously employed, such measures are distinctly beneficial.

There is no scheme of diet that is applicable to all cases. If we can exclude any catarrhal condition, a coarse regimen, rich in cellulose, such as is recommended by Von Noorden, will often succeed admirably, but the change, I believe, should be made gradually and not abruptly. If pain is a prominent feature, if there is much tenderness over any part of the colon, great distention or marked evidences of undigested starch granules in the stools, it will only aggravate these symptoms. Hyperchlorhydria and gastroptosis are often contraindications and one or the other of these conditions is not infrequently to be found in cases which afford the most typical examples of the secretory form of this disease.

The best diet in such cases is one that is small in bulk, that is easily digested and that leaves a small residue. It may not relieve the constipation, but it will lessen the patient's discomfort. As improvement is observed in the secretory and sensory disturbances, we can, by a diminution of proteids and the substitution of fats and carbohydrates, promote a better motor function. Fruits, honey, butter, olive oil, the coarser breadstuffs and vegetables all act to increase the volume of alimentary residue and to stimulate peristalsis. If diarrhea is present, or if experience has shown that this condition is readily precipitated, only the blandest articles of food should be permitted. In dealing with constipation, diarrhea and other attendant local phenomena, I believe that the milder mineral waters of the alkaline-saline

group are among our most useful remedies. This opinion I have often heard expressed also by physicians practicing in Carlsbad, Kissingen, Homburg and other European resorts where the waters are of this type.

I have used the French Lick waters in all of the cases here reported and, after making due allowance for such favorable extraneous influences as resorts of this character afford, I am confident that much benefit has been obtained from their use.

I have not, however, even in the cases in which constipation was most obstinate, prescribed the water in large quantities nor have I relied wholly on the drinking of the water but have employed it locally as well. The greatest benefit to be derived from its use is, I believe, in its influence on secretion, and for this purpose large quantities are not advisable. Warm enemas of olive oil are often of the greatest service in the cure of the attendant constipation. Tonic baths, conjoined with local and general massage, have been largely used both for their effect on the circulation and the relief of intestinal atony. Warm fomentations over the abdomen are very grateful if there is much pain or tenderness.

The indications for abdominal massage are much the same as for the coarser forms of diet. It should never be employed when it produces pain. In many cases I have found that vibratory massage acted even better than when manually performed.

Exercises, particularly such as bring into use the abdominal muscles, are most beneficial in promoting peristalsis, and in fact outdoor exercises generally, provided they are not carried to the point of undue fatigue, serve an excellent purpose. The greater the diversion and interest they afford, the better will be the results obtained.

There are few conditions in which the psychical element enters more largely into causation than it does in colitis, and we are justified, I think, in availing ourselves of the same influence in treatment; in some cases its importance is to be placed before that of any other measure. Optimism on the part of the physician and his ability to obtain the confidence of the patient count for much in the relief of mental depression, a common feature of these cases, and like influences are to be obtained from change of scene and cheerful surroundings.

SURGICAL TREATMENT

As regards the operations of appendicostomy and cecostomy recently exploited with some enthusiasm by certain surgeons in the treatment of colitis, chronic constipation and other intestinal conditions hitherto regarded as within the scope of medical art, I can only say that I believe it is possible to reach any part of the colon by lavage through the rectum and the advantages to be gained in providing an artificial opening through which to apply local treatments are more than offset by the depressing effect of the operation and the presence of a fistulous tract which must later be closed. As Richardson has recently observed:

> Operations on the neurasthenic return nothing to the patient. Her last state is worse than her first and is often pitiable. The best rule is to forbid surgery until every medical and palliative measure has proved useless.

PROGNOSIS

The prognosis is, as a rule, favorable, although improvement is often tedious. It is impossible to give any statistical data on this point regarding the cases here referred to, as most of them have been lost sight of after leaving the springs. The immediate results have been most gratifying, and in a large proportion of those cases in which I have been able to follow the subsequent history, the improvement has been of a more or less permanent character. A considerable number have been cured.

A CASE OF EXTENSIVE LEUKEMIC INFILTRATION OF THE MAMMARY GLAND AND SKIN *

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This case is reported because it exhibits some rare features, as lymphatic infiltration of the lips, nose and pinna, and a most remarkable involvement of the mammary glands, which I have been unable to find described in the literature.

History.—Mrs. S., Austrian, aged 47, came to the Rush medical clinic complaining of shortness of breath, hoarseness, swollen lips and nose, and pain on swallowing. There was nothing of any moment in the family history. The patient had always enjoyed good health, and had had four children; no miscarriages. Her teeth, however, had been in a bad condition for years without receiving proper care. Her present trouble began about nine months before she came to the clinic with redness and itching of the nose, which was soon followed by swelling of the nose and lips. During this time she had been treated by various physicians for "cold" and eczema, and in the course of the treatment all her teeth were extracted.

Examination.—The patient was a medium-sized woman, fairly well nourished, skin clear; there was no jaundice or abnormal pigmentation. The lower eyelids were edematous; the pupils reacted to light and accommodation, and were rather contracted; the eye muscles worked well. The retinæ showed spots of a grayish exudate; the margins of both disks were somewhat indistinct and striated on the nasal side, but the sight was not appreciably impaired. There was no exophthalmos.

The nose appeared symmetrically enlarged, reddish in color, firm and indurated on palpation. Breathing through the nose with mouth closed was difficult and brought out a marked stridor.

The lips were considerably swollen, the upper somewhat more than the lower one; the mucosa was tense and shiny, the tissue hard and indurated. The patient complained frequently of a severe burning and itching sensation of the lips and to a less degree of the nose. The oral cavity was without teeth; the gum margins were ulcerated and bleeding, the palate was abnormally arched, and posteriorly there was a diffuse swelling which extended on both sides into the pharynx. Tonsils, palate and postpharyngeal wall, all seemed involved in this swelling. The voice was very hoarse or whispering. The dyspnea was at times associated with distinct stridor and marked inspiratory descent of the trachea. Periodically there appeared a violent, brassy cough.

The pinna of the right ear was enlarged to almost double its normal size and was of a reddish color, the tissue being firm and infiltrated. The left pinna was normal. Both drums were retracted and opaque in color. The hearing power was not diminished to an appreciable extent.

All superficial lymph-glands of the body were enlarged to a various extent. The least enlargement was in the glands of the neck, especially in those of the posterior triangle, although even these were easily palpable. There was no fusion of the glands and no fixation of the overlying skin. The largest superficial glands were those of the axillæ.

The mammæ appeared symmetrically enlarged, firm and infiltrated. The glands were somewhat movable; the skin over them was tense, shiny, but not fixed; the nipples were not

* From the Medical Clinic of Rush Medical College and the Department of Pathology of the University of Chicago.

retracted. No separate nodules could be felt in the glands. No connection between the mammæ and the large lymph-glands of the axillæ could be made out. The apex-beat was in the fifth space, inside the nipple-line and somewhat heaving. Extension of the heart to the right of the sternum could not be established by percussion. There was no thrill. The first sound in the mitral area was loud and short, ending in a distinct murmur. At irregular intervals an extra-systole was thrown in, and later a distinct gallop-rhythm developed. In the pulmonic area there was a rough, grating, systolic murmur, at times distinctly purring, so that pulmonic obstruction was suspected. (At autopsy, however, the valves as well as the aorta and pulmonic artery were found to be normal.)

Percussion note over the right lung was slightly dull, especially over the anterior aspect. Breath sounds were somewhat distinct, more so over the right lung. There were no râles.

The abdomen was full, and in the left hypochondrium a tumor mass was readily felt, which issued from beneath the left costal arch and extended beyond the umbilicus. The tumor was somewhat movable, descended with respiration, was slightly tender, of hard consistency, notched on the median surface. Slight percussion over the tumor brought out a flat note. The lower margin of the liver descended to about 2 inches below the costal arch in the mammary line; its consistency was not much increased; its surface was smooth. No glandular masses could be palpated in the abdomen. The umbilicus was freely movable and not retracted.

At the time of admission to the clinic a skin tumor as large as a small walnut was noticed in the posterior axillary line of the right side. This tumor disappeared later. The deep reflexes were normal.

The blood-count showed 110,000 white cells, 82 per cent. small and 6 per cent. large lymphocytes, and a moderate secondary anemia.

Transient skin-rashes (areas of hyperemia) were observed at different times.

The urine contained traces of albumin and a few casts; gravity 1.020.

Course of Disease.—The patient was under observation about three weeks. During this time the dyspnea was increasing and caused much discomfort to the patient. Tracheotomy was considered, but the general condition of the patient seemed to exclude such an operation. Venesection gave temporary relief. Toward the end there was marked cardiac insufficiency with gallop-rhythm, very irregular pulse and pulmonary edema.

According to the statement of the patient the disease began with redness and itching of the skin of the nose, that was soon followed by swelling of the nose and lips. She was treated for months for eczema by various physicians, and it seems likely that at this time the general swelling of the lymph-glands was not apparent. It is therefore reasonable to assume that the skin lesion was the earliest manifestation of the disease.

The most remarkable feature in this case was found in the condition of the mammary gland, a condition which I have failed to find described in the literature, although in a very few cases lymphomata have been reported in the lacrimal, parotid and maxillary glands in association with lymphomata outside the glands.[1]

An autopsy was performed by Dr. H. Gideon Wells, and the histologic study of the tissues was made by Dr. B. F. Davis, and an abstract of their report follows:

There were found the usual lymphatic hyperplasias of chronic lymphatic leukemia, lymphoid infiltration of the viscera, and in addition lymphoid infiltration of the skin of the nose and lips. The mammary glands were found replaced by a mass of lymphoid tissue of uniform consistence, resembling in its gross appearances sarcomatous tissue, the mass of new tissue when dissected away from the skin and adjacent fat tissue from one breast measuring 12 by 12 by 4 cm., and weighing 350 gm. Microscopically the normal tissue of the mammary gland was found to have disappeared almost entirely, the remains of an isolated gland tubule or duct being found only rarely in the mass of large and small round cells which make up the growth. These cells infiltrate the connective tissues in the nipple and areolæ up to, but not into the epithelium, accounting for the swollen condition of the areolæ. (A full report of the anatomic findings will be published in the *Transactions of the Chicago Pathological Society.*)

1. Pinkus: Ueber die Hautveränderungen bei lymphatischer Leukämie und Pseudo-Leukämie, Arch. f. Dermat. u. Syph., 1899, l, Nos. 1, 2.
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A NEW STAIN FOR BACTERIAL CAPSULES WITH SPECIAL REFERENCE TO PNEUMOCOCCI *

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After much experimentation the following method for staining bacterial capsules has been devised. It has proved of such value in a study of autolysis of pneumococci, in their identification in culture and exudates as well as in staining the capsule of *Streptococcus mucosus* and, with a slight modification, the capsule of the *Bacillus mucosus* also, that a brief report seems desirable at this time.

DIRECTIONS

Make a thin smear on a perfectly clean slide or cover-glass. If the material, such as sputum, is too thick, add enough distilled water so that it can be spread evenly by means of a piece of fine tissue or cigarette paper. In case of cultures (blood-agar, serum, glucose or Loeffler's blood-serum being preferable), remove a small amount of the growth from the surface of the medium and at once mix thoroughly with a loopful of serum on the slide, or, better still, make a rather dense suspension in a few drops of distilled water and then mix an equal quantity of this suspension with serum, and spread by means of tissue-paper. As the smear becomes nearly dry cover for ten to twenty seconds with 5 to 10 per cent. aqueous solution of tannic acid; wash in water and blot; stain with carbol [saturated alcoholic solution gentian violet (Grübler) 1 pt., 5 per cent. phenol in water, 4 pts.] or anilin gentian violet, half a minute to a minute, heat over flame but do not boil; wash in water again; Gram's iodin solution for half a minute to a minute; decolorize in alcohol (95 per cent.); stain for from two to ten seconds, depending on the thickness of smears, with saturated alcoholic (60 per cent.) solution of Grübler's eosin; wash in water and blot finally, clear in xylol and mount in balsam, or examine directly. (If the organism, like the *Bacillus mucosus*, is Gram-negative, the bacillus may be stained with Loeffler's or aqueous methylene blue.)

The pneumococci are stained deeply brownish black, sharply differentiated from the capsule, which is stained pink. Beautiful results are also obtained with the *Streptococcus mucosus*. In the thickest part of the smear the space occupied by the capsule may be perfectly clear; elsewhere in the smear, if properly made, where the conditions are suitable for absorption of eosin, the capsule is stained deeply pink; not rarely a clear retraction zone (often mistaken for the capsule in former methods) may be seen peripherally to a distinctly stained, often large capsule.

In case of sputum in which the cocci are embedded in a more or less tenacious mucus the capsules, at times, are not rendered stainable by the above method. In that case it is well to fix and stain simultaneously with the 2 per cent. aqueous tannic acid, 4 parts, and saturated solution of gentian

* From the Memorial Institute for Infectious Diseases. For a more complete report see Jour. Infect. Dis., 1911, viii.

violet, 1 part. This modification often gives beautiful results. The cocci, however, decolorize easily and the tannic acid-gentian-violet may be followed by carbol-gentian-violet and then the usual procedure. Ordinary carbol-fuchsin, diluted 5 to 10 times and aqueous eosin (50 per cent. sat.) may also be used to stain the capsule, although the saturated alcoholic (60 per cent.) eosin has given the best results. Decolorization after the modified Gram procedure of tannic acid-fixed smears is more rapid than in the case of heat-fixed smears, which should be borne in mind.

By the use of this method it has been determined that the capsule of the pneumococcus and allied organisms is not difficult to preserve or readily soluble in water, as is generally believed. To stain the capsule is a problem of rendering it stainable rather than one of preservation. The reactions which render the capsule stainable appear to be colloidal reactions.

150 Michigan Avenue.

A PROBABLE CASE OF ANAPHYLAXIS

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In view of the present experimental investigations into the nature and occurrence of the reaction of anaphylaxis, and of the importance of the question to human serotherapy, it is important that clinical record be made of all observations bearing on the phenomenon. The following case of illness, not clearly understood at the time of its occurrence, now appears clearly to have been an instance of anaphylaxis, and is therefore reported.

The subject of the condition, a physician in San Francisco, in the winter of 1900-1 performed an autopsy on a case of bubonic plague. The body was that of a white man, and the history and location of the house in which the illness occurred led to no suspicion as to the nature of the disease. It was, in fact, the first death of a Caucasian that occurred in California from bubonic plague. No precautions were taken in the performance of the necropsy, and when on its completion the appearance of the organs and the microscopic findings of bacilli definitely determined to correspond in all morphologic features to the plague bacillus led to the diagnosis of plague, it was felt that the degree of exposure had been so great as to warrant the use of the Yersin serum. This was accordingly injected, 30 c.c. being used. Infection with plague did not occur, and in the course of time the incident was quite forgotten.

Nearly five years later the same physician was hunting deer in the mountains of California, in company with another man, the men having with them two horses. One of the horses, being green to the chase, resisted the efforts of the hunters to strap a dead buck on its back, and a lively tussle took place, during the course of which the physician had his forearms and hands badly scratched and lacerated by the metal parts of the bridle of the horse. On his return to the city a few days later, as he did not feel satisfied with the condition of the wounds, which had not been properly cleansed of the horse hairs and dirt from the horse, and which had not been treated with an antiseptic at all, these were all thoroughly cleansed, disinfected, and 20 c.c. of antitetanic serum injected as a prophylactic.

For a number of hours after the injection of the tetanus antitoxin, nothing was noted. Then suddenly the man was stricken with a universal, giant urticaria, with profound prostration. The attack lasted in its acute phases four days, the symptoms and signs being as follows:

1. *Giant Urticaria.*—This was very marked, the body being at times swollen almost past recognition. Three times the condition receded in part, only to recur with renewed violence. Following the acute attack, the skin did not reach its normal condition for ten days. The usual symptoms of this condition were present in great intensity, itching being almost intolerable.

2. *Tachycardia.*—With a normal temperature, the pulse during the attack ranged about 130 per minute. Physical examination of the heart elicited no abnormal signs other than the excessive rate.

3. *Diarrhea.*—A diarrhea of choleraic violence occurred, accompanied by the passage of large exfoliations or membranous casts of the intestine. This condition lasted for three days.

4. *Neuritis.*—On the night of the third day, a sudden sharp pain was felt in the right deltoid region, the skin over which soon gave evidence of anesthesia. Palsy in the muscles supplied by the circumflex nerve rapidly developed with the regular signs of a circumflex neuritis. The muscles wasted, gave typical reactions of degeneration, which, with the cutaneous anesthesia, persisted for months. Recovery, which finally occurred, was not complete, and there exists still some functional disability in the use of the deltoid and of the muscles lying between the deltoid and the spine of the scapula. Whether the neuritis was confined to the circumflex or extended to other branches of the plexus, does not concern the present report.

5. *Prostration of the Neuromuscular System.*—This may have been due, in part at least, to the diarrhea. Following recovery, however, the man was for a number of weeks profoundly asthenic.

The subject of this attack has never had any difficulties with asthma, nor has he ever been in the least "sensitive" to horses. The probable interpretation of the attack as an instance of anaphylaxis is based on the history of the two injections of horse serum with an interval of five years, and of the resemblance of the attack to the features of experimental anaphylaxis. It would be of great importance to determine whether now, after a further interval of five years, the individual is still "sensitized." Instructive as the results of an injection of horse serum at this date would be, the subject declines the experiment.

4522 Locust Street.

A CASE OF AIR EMBOLUS OCCURRING DURING OPERATION UNDER AIR-INFLATION URETHROSCOPY

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Some years ago I introduced to the profession my air-inflation urethroscope, and since that time I have been consistent in my advocacy of this instrument for both diagnostic and operative purposes. Within the past year, however, I have observed certain phenomena which have led me to question the wisdom of intra-urethral operations carried on under air-inflation. I have, therefore, taken advantage of this opportunity to sound a note of warning to users of this method.

Fenwick, in urethroscoping under air-inflation a stricture complicated by recent false passages, noted an emphysematous condition following, and speculated on the possibility of serious associated conditions. His description, quoted by William R. Fox,[1] is as follows:

I examined with inflation a patient who had had profuse bleeding from attempts at catheterism some few hours before applying to me for relief. I was able to find the opening of the false passage with ease. It lay just below the pin-point orifice of the strictured part of the urethra, and it appeared as a bloody-edged, ragged slit. But the patient called out almost immediately that something was running down the

1. The Urethroscope: Its Development and Its Use. Australasian Med. Gaz., Oct. 20, 1906.

inside of his thighs, and I then became aware that air was passing freely through the opening of the "false passage" and escaping into the tissues of the perineum. There was no doubt but that the false passage was very extensive. No ill results ensued, but it is easily conceivable that damage of a grave description can be inflicted by unfiltered air passing over an inflamed surface and opening up extensive cellular planes in the thighs, perineum and pelvis.

Within the past year, while opening up infected follicles in the anterior urethra, I have observed two cases in which localized emphysema in the cellular tissue of the pendulous urethra occurred as a result of the air-inflation used during the operation. In neither of these cases was the local condition marked, nor were there any generalized symptoms. In both cases the emphysematous condition gradually disappeared within a few days without giving rise to any untoward symptoms.

In the following case, which forms the basis for this report, the emphysematous condition was so extensive, and the immediate symptoms so alarming in character, that a fatal issue seemed unavoidable. The possibility of similar complications arising in other cases of a like character has led me to the belief that extreme caution should be used in all intra-urethral or intravesical operations performed under air-inflation.

F. H. B., Douglas, Arizona, aged 35, married, family history negative, gave a history of intermittent urethritis for the previous fifteen years. The patient was first seen on Oct. 3, 1910.

Examination showed typical chronic urethritis of the anteroposterior type. Urethroscopy disclosed diffuse infiltration, a few infected urethral follicles tending to become cystic, and a band-like stricture on the floor of the urethra just anterior to the peno-scrotal junction.

After preliminary treatment, the air-inflation urethroscope was introduced October 12, and preparations were made for dividing the stricture through the urethroscope. The strictured area was cocainized by the application of a 2 per cent. solution, and after a few minutes the urethra was inflated with air and the stricture divided. An emphysematous condition of the cellular tissue in the neighborhood of the stricture was noted and almost immediately the patient complained of pains in the epigastrium and began to cough. He became rapidly cyanotic and the radial pulse became imperceptible. Auscultation over the cardiac area revealed the "whirr" of what was apparently considerable quantities of air passing through the heart. The heart-sound rapidly became feeble and then could not be detected. Respiration quickly ceased, not suddenly but progressively, as in the dying. The pupils were fully dilated and the eyes were fixed; in fact, the whole appearance of the patient was that of a cadaver.

Artificial respiration was employed and whisky administered hypodermatically. Within a short time feeble signs of returning life were noticed and the patient gradually recovered consciousness, though some air could still be heard whirring through the heart. The patient still complained of a feeling of oppression in the epigastrium and this feeling was noticeable in a gradually diminishing degree for a period of about one week.

The local emphysema was not marked and seemed to involve only the cellular tissue of the pendulous urethra. There was no emphysema of the scrotal tissues.

On the following day the patient complained of tenderness in the hypogastrium, especially marked on the left side. Examination revealed a fairly extensive emphysema of the abdominal wall, which slowly disappeared in about one week. No other symptoms of an untoward nature were noted.

There can be no question but that the causative factor of the serious symptoms in this case was air embolus. It is, however, astonishing what an amount of air was forced into the circulation without a fatal issue. This case cannot be regarded as merely an "accident" occurring during operative urethroscopy under air-inflation, though like symptoms have never been noted in my experience in similar operative work, which covers several hundred cases. Like "accidents" appeal to me as being ever-present possibilities in such work, and I would urge extreme caution in the employment of air-inflation urethroscopy for operative purposes.

707 Gloyd Building.

THE CAUSE AND TREATMENT OF DEFECTIVE MUTATION OF THE VOICE

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The change of the voice at puberty sometimes goes on improperly, and the young man acquires a high, falsetto tone instead of the regular tenor or base. The condition is very troublesome to the business man, and is particularly obnoxious in public speakers, clergymen, lawyers and military officers.

An examination of the larynx in such a condition shows the vocal cords to be excessively shiny and white, and apparently very tightly stretched. An external examination shows that in speaking or singing the larynx is pulled high up under the tongue and often rather forward toward the chin. The condition is evidently due to overcontraction of both the intrinsic and the extrinsic muscles of the larynx, whereby the vocal cords are stretched too tightly. The overcontraction is found only during singing and speaking. It is a purely nervous habit.

The treatment begins by teaching the person to sing on very low tones. At first the tones will be harsh and rattling, but they will gradually become natural. The pitch of the song is gradually raised until the patient sings over the normal range of voice. Another exercise consists of chanting sentences on a single low tone, which is gradually raised in pitch in successive exercises. A third exercise consists in singing the first word or two of a sentence on a low tone and finishing it by speaking. In a fourth line of work, exercises in singing and speaking are used while the patient presses the larynx down and backward by putting his fingers on the hyoid bone and on the notch at the front of the thyroid cartilage.

With such direct methods of treatment it is possible to eliminate the defect entirely, usually in a very short time. The cure is often completed in one or two weeks.

87 Madison Avenue.

Therapeutics

DRUGS USED TO ACT ON THE CIRCULATION

No part of the body is more maltreated medicinally than the heart. Some of such mistaken treatment is due to carelessness, some to lack of proper diagnosis and understanding of the pathology of the condition, while at other times it is due to an entire misunderstanding or ignorance of the action of the drugs used. At still other times there may be the most careful discrimination and the best possible judgment combined with a thorough understanding of the condition of the heart and circulation of a given patient, and still a drug will be used that does harm instead of good, or used in too large amount, or in insufficient amount. In other words, with all the knowledge we can bring to bear, it is not always possible to decide exactly what a heart and cir-

culation need. Many times, probably, it would be better to use no circulatory drug rather than to use a wrong one.

Better to understand when a drug should be used and which drug should be used, it may be well to classify circulatory drugs in a way that will better show what to expect of them. It is absurd to use a slow-acting drug like digitalis when a quick stimulation of a heart is desired. It is also wrong to believe that alcohol will cause any more than a momentary stimulation of the heart; in other words, in cardiac weakness which lasts more than a very short time alcohol for this purpose is contra-indicated. It is also generally inadvisable to give a drug that raises the blood-pressure when a heart is laboring against high pressure.

The drugs used to act on the circulation may be subdivided as follows:

1. Drugs to stimulate the heart: alcohol, ammonia, and camphor.
2. Drugs to depress the heart: aconite (veratrum).
3. Drugs to strengthen the heart: caffein, digitalis, strophanthus, strychnin.
4. Drugs to contract the blood-vessels: atropin, ergot, epinephrin.
5. Drugs to dilate the blood-vessels: alcohol, nitrites.

As just stated, alcohol is a cardiac stimulant only for a short time and really acts for good in some abnormal circulatory conditions by dilating the blood-vessels.

Aconite is now rarely needed to depress the heart, as, if there is fever, a coal-tar product not only lowers the high temperature, but also depresses and quiets the heart.

Caffein and strychnin are both stimulants and tonics to the heart.

A cardiac stimulant may be defined as something that will stimulate the heart to greater activity but which, after its action is over, leaves the heart worse than it found it, unless the indication for such stimulation was a momentary one. In other words, such drugs are cardiac whips, and do not strengthen the heart.

A cardiac tonic may be defined as something that braces the heart and at the same time strengthens it; in other words, leaves it better than it found it. Such drugs are indicated in more or less continued cardiac weakness, and are not indicated in sudden emergencies.

As digitalis is one of the most important of the drugs above mentioned, and is a much misused drug, it seems well to describe its action first. The plan used in its description is the plan or scheme that seems the best for presenting the activities of a drug to the man who is to use the drug in actual practice, and the same scheme will be followed when other important drugs are described in this department.

DIGITALIS

Description.—Digitalis (genitive digitalis, Latin feminine noun, third declension). This drug was named by Fuchs, in 1542, after the German *Fingerhut*, a thimble. The United States Pharmacopeia recommends as official the dried leaves of *Digitalis purpurea*, the purple fox-glove, gathered during the second year of the growth of the plant while it is in flower. The *Digitalis purpurea* grows wild in Southern and Central Europe and England, and is cultivated in the United States, but the leaves of the cultivated plants are believed to have less medicinal value than those gathered from the wild plants. The so-called English leaves are preferable to the German leaves because they are cleaner and have been separated from the stalks on which they grow. Digitalis has rather a disagreeable, bitterish taste, but the infusion, which is made with cinnamon water, is less unpleasant.

The first investigator to obtain a crystalline active principle from this drug was Nativelle, in 1871, but as yet no active or alkaloidal principle has been separated that is so efficient in its action as preparations made from the crude drug by reliable chemists.

The exact chemical constitution of digitalis is not definitely established, but from the leaves by extraction with water and alcohol have been obtained the following:

DIGITALIS: A crystalline glucosid which is often prepared from the seeds and may, therefore, be an impure product containing active principles not found in the leaves. There are probably on the market to-day about four different substances under the name of digitalin some of which contain digitoxin and are therefore much more active and poisonous. Hence a given preparation of digitalin should be carefully tested by small doses before large doses are given. It is fairly soluble in water.

DIGITALEIN: A glucosid obtained from the leaves.

DIGITONIN: A third glucosid obtained from the leaves.

DIGITOPHYLLIN: A fourth glucosid, resembling digitoxin, recently obtained by Kiliani.

DIGITOXIN: A toxic principle more actively poisonous than the above glucosids.

Besides these active principles there are a resin, an acid, and a fixed oil.

There has been a good deal of discussion and difference of opinion as to the relative physiologic activity of a watery preparation of the leaves (the official infusion) and an alcoholic preparation of the leaves (the official tincture). An infusion should represent pretty much the whole activity of the digitalis, as water seems to extract the digitoxin and digitophyllin in the presence of digitonin glucosids. On the other hand, an alcoholic preparation of the leaves represents the best active principles, except the digitonins. The digitalins offered are prepared mostly from the seeds of digitalis. These probably are rarely one glucosid, but represent both digitalin and digitalein, with a small amount of digitoxin and probably some digitonins.

The most active part of digitalis is probably the digitoxin, and as these crystallin preparations represent less digitoxin than do the fluid preparations of the Pharmacopeia prepared from the leaves, these crystalline substances are not as active nor satisfactory medicaments.

Digitalis was first recommended to the medical profession by Dr. W. Withering, who wrote, in 1785, under the title of "An Account of the Fox-Glove," of the results of using this drug in two hundred cases of dropsy and allied conditions during the previous ten years. In this article he strongly advises the use of digitalis as a diuretic, and also noted that it had good action on the heart.

Local Action.—This drug has no action on the skin, but has a slightly irritant action on the mucous membranes and, hence, when swallowed in strong preparation, or undiluted, or on an empty stomach, or when large doses are long repeated, will cause loss of appetite, nausea, perhaps vomiting, and even diarrhea. Preparations that do not contain digitoxin would not irritate the stomach as much, but such preparations are not so valuable therapeutically. Preparations injected subcutaneously may cause considerable irritation and perhaps inflammation, and even abscesses, though the latter

XUM

are rare, but the preparations of digitalin will almost invariably cause some slight pain and slight local induration for a day or two.

The active principles of this drug are absorbed from both the stomach and the intestine, the rate of absorption depending, of course, on the preparation used, its concentration, solubility, and the condition of the stomach. Digitalis is ordinarily absorbed slowly unless there is some local irritating influence to make the absorption more rapid, hence the systemic effects of digitalis do not appear ordinarily for from six to twelve hours after the ingestion of the first dose.

Systemic Action.—The primary and chief constitutional effect of digitalis is on the *circulatory system.* The blood is not altered by digitalis except that it may become of lower specific gravity by a better circulation taking up more lymph. In non-poisonous doses the heart is slowed, its contraction is more energetic, and the blood-pressure is raised. The diastole is prolonged principally by the action of this drug on the pneumogastric center in the medulla, the stimulation of which tends to slow the heart. The contraction of the heart is more energetic on account of the irritation which this drug causes to the cardiac muscle, and this irritation and the resulting increased contraction is greatest on the part of the heart when there is the most muscular tissue, hence the effect is more pronounced on the ventricles than on the auricles, and more on the left ventricle than on the right. Under the action of digitalis the cardiac muscle improves in tone and hypertrophies because of the prolonged diastole giving much needed rest and hence causing muscle-recuperation, and the stimulation which the cardiac muscle receives acting like any other regulated gymnastic exercise to muscle tissue.

Three stages of the action of digitalis on the heart are recognized, the first stage being the one just stated, which is the desired therapeutic action. During this stage we believe that the cavities of the heart which physiologically do not completely empty themselves are absolutely emptied by the sturdy contraction. The papillary muscles tend to contract more completely as well as the other parts of the muscle walls of the ventricles and thus tend to diminish a valvular insufficiency. The prolonged diastole from the stimulation of the pneumogastric nerve tends to a more complete dilatation and therefore the blood more completely fills the cavities of the heart. This dilatation seems to be due to the inhibitory action on the pneumogastric center in the medulla, and also partially to the stimulation of the terminal endings of these nerves in the heart. The increased contraction of the heart, which also contains more blood than before the administration of the drug, expels more with each beat and under greater tension, and this results in raising the arterial blood-pressure.

To repeat, *with therapeutic doses* of digitalis the heart is slowed, the rhythm is normal, and the various parts of the heart contract more sturdily, the action on the auricles and ventricles being the same except that it is more marked where there is more muscle tissue.

With larger doses of this drug, or when the action is greater than therapeutics require, one of two conditions predominates: Either the stimulation of the pneumogastric or the stimulation of the cardiac muscle is too great, and generally the former predominates and the heart becomes very much slowed, and we have what is called the *second stage* of digitalis action. This inhibition acts more decidedly on the auricles than on the ventricles, the latter being more stimulated by the irritation of their greater amount of muscle tissue, and an irregular cardiac rhythm is caused, the auricles and ventricles not beating harmoniously although both ventricles always contract synchronously. We then have a very slow pulse and an irregular rhythm.

This stage is the stage of danger and the beginning of the *third stage* is not far distant, which is not the stage in which the pneumogastrics are paralyzed as has been stated, but in which the irritation of this drug on the cardiac muscle becomes so great as to cause the heart to beat very rapidly in spite of the inhibition. There may even be permanent contraction of the ventricles or a permanent systole of the whole heart and stoppage of the circulation. After such stoppage of the circulation the heart may dilate and remain dilated.

Digitalis is a *vasocontractor,* causing narrowing of the peripheral blood-vessels by stimulation primarily of the vasomotor center in the medulla oblongata, but it also stimulates the muscular coat of the arterioles. We have then an increased blood-pressure from three causes; from stimulation of the vasomotor center, from stimulation of the muscle-coat in the vessel walls, and from the increased amount of blood thrown into the aorta by the heart; hence the blood-flow in the capillaries is accelerated. The flow of blood through the arterioles and capillaries would, of course, be modified by the degree of the action of the digitalis on the heart. When the heart was toxically disturbed by digitalis the flow of blood in the arterioles would be decreased. Digitalis also increases the blood-flow in the pulmonary circulation as well as in the systemic.

Overaction of digitalis can cause irregular contraction of the blood-vessels so as to cause one or more extremities to feel cold and perhaps numb. Such overaction can also cause a feeling of constriction in the head, especially noticeable in the occipital region.

It is probable that when a heart is in normal condition the blood-pressure will not be much raised by the action of digitalis. If the heart, however, is defective, the blood-pressure is raised by its therapeutic use. In therapeutic dosage, however, it does not much contract the arterioles, although it has been claimed (Loeb) that the coronary arteries under the action of digitalis are lessened in caliber. This is probably not clinically the fact when digitalis is badly needed for a dilated heart, but may be the reason that, when there is supposed to be sclerosis of the coronary vessels with symptoms of angina pectoris, digitalis will generally add to the pain and increase the danger, and should not be used. Digitalis should never be used in internal hemorrhage, unless the hemorrhage is a capillary oozing or venous bleeding. Digitalis may therefore be of value in hemorrhage from the nostrils, in venous bleeding into the bronchial tubes, in venous bleeding from the kidneys, and in hemorrhoids.

An ordinary therapeutic dose of digitalis when the heart is in good condition affects the *nervous system* but little, but when the heart is in such condition as to require digitalis, by improving the circulation in the brain, it is a cerebral stimulant, and the mental condition of the patient is more active, and a drowsy or uncomfortable feeling of fulness in the head disappears. The medulla centers are all stimulated by digitalis.

Too large doses or cumulative doses of digitalis can overstimulate other centers in the medulla besides the cardiac inhibitory and vasoconstrictor, and may cause nausea and vomiting. Overaction of digitalis can also cause dilated pupils, blurred vision, irregular respiration, and finally convulsions.

In conditions of fever, digitalis does not seem readily to slow the heart though the temperature may at times be a little lowered. For some reason, the action of digitalis on the vagus or the inhibitory center does not work, hence if digitalis is given in feverish conditions, it should not be pushed, as any improvement of the vascular tone, or of the dyspnea, and an increase of the amount of urine and a diminution of the edema are signs of sufficient action, and it should not be attempted to push it to slowing of the heart. In fact, in conditions of prolonged fever, when the heart muscle has been weakened, digitalis should be given only in small doses. In mammals, digitalis probably never has any effect on the nerves or sensory organs except, as above stated, on the eyes.

The only effect of this drug on the muscular system is that of an increased and better blood-flow to the muscles. It has not been proved that smooth muscle-tissue other than those of the blood-vessel walls are much stimulated by digitalis, only such improvements as would occur from a bettered circulation.

The *glands* of the body are not affected except as improved circulation and nutrition increase their functional activity.

The *kidney* secretion or excretion is the only one affected, and here there is an increased flow of urine almost entirely due to an increase of the watery part.

Increase in the amount of urea in the urine under the action of digitalis varies with the condition of the patient. If the metabolism has been sluggish from poor circulation, the output of excretory products would be increased. If the circulation has been pretty normal the character of the urine is probably not much changed.

Whereas there may be slight stimulation of the kidney cells, the increased flow of urine seems to be almost entirely due to the increased blood-pressure and improved circulation. The increased circulation causes more lymph to be poured into the blood-vessels, this diluting the blood is one more reason for the increased action of the kidney.

Valuable as digitalis is in increasing the output of urine, in cardiac weakness, edema, effusions, etc., it is not good treatment to push digitalis to any extent, if used at all, when the kidneys are diseased.

This drug is largely but slowly *excreted* by the urine, one dose lasting for from twelve to twenty-four hours, or even longer, and we are probably almost never justified in giving a dose of digitalis oftener than twice in twenty-four hours. The heart and pulse may show the effect of the drug several days after it has been given continuously for a time. The active principles are mostly oxidized or broken up, and therefore cannot be found in any considerable amount in the urine.

Action of a Therapeutic Dose or the Primary Physiologic Action.—The action desired of digitalis used therapeutically is: to slow the heart; to increase arterial tension; to increase the output of urine; to improve all the results of circulatory weakness such as dyspnea, edema, and trophic disturbances due to poor circulation.

The heart should rarely be slowed by digitalis below sixty, or at most fifty beats a minute. If it is slowed beyond this point, or if there is a feeling of constriction in the head, or there are cold and numb sensations in one or more extremities, or there is a distinct reduction in the amount of urine passed in twenty-four hours, or the pulse becomes irregular, or there is nausea or vomiting, *too much digitalis* is being given and it should be stopped. Any or all of these symptoms can develop during the administration of therapeutic doses, due to the so-called *cumulative action* of digitalis. This may be caused by some chemical condition in the gastro-intestinal canal causing more rapid absorption than usual of several doses, or the rate of excretion can be diminished by the kidneys not acting well, and the above symptoms of overaction can develop. Delirium and hallucinations occur as a symptom of cumulative or over-action of digitalis.

When giving digitalis in large doses it should be remembered that the full effects of a single dose may not appear for from twenty-four to even sixty hours. Consequently, when a result desired is not immediately obtained, large doses should not be repeated, and smaller doses should not be given too frequently.

Idiosyncrasy against this drug probably does not occur, but tolerance probably depends on the condition of the kidneys; the more perfect the kidney, the greater the tolerance. The parts of the drug longest tolerated without cumulative effects are probably digitoxin and digitalinum, while the whole drug, representing all the various active glucosids, in large doses too frequently repeated, owing to slow excretion, can readily cause the above undesired symptoms of cumulative action. When an unusual tolerance to the drug is shown, it is probable that the preparation is inactive, and the various records presented of the harmlessness of repeated large doses of digitalis are explainable by the inactivity of the drug or preparation used. When large doses are being administered to a patient, or he is thoroughly under the influence of digitalis, he should be frequently seen by the physician. Any sudden exertion by a patient when under the full influence of digitalis must be positively prohibited.

The *toxic symptoms* of digitalis are a rapid, irregular heart, the auricles not beating synchronously with the ventricles, cold hands and feet, nausea, vomiting, dizziness, disturbed respiration, lowered temperature, muscular weakness, and final collapse with delirium cordis or cardiac paralysis. The face may be pale, the sclerotics may be bluish, there may be diarrhea, there may be suppression of urine, and there may be delirium and convulsions.

Digitoxin is the most active poison of the digitalis active principles, although it is the most rapidly eliminated.

Treatment of Digitalis Poisoning.—There is no good physiologic antidote and no good chemical antidote, if the poison is in the stomach, except the physical treatment of removing it by emetics or by stomach washing. Tannic acid and tincture of the chlorid of iron are feeble chemical antidotes. The patient should be kept absolutely at rest. The body temperature should be kept up with dry heat applications. Artificial respiration may be advisable and necessary. Moist, hot applications to the lumbar region may be of advantage in aiding a relaxation of the kidney vessels, which will allow the drug which has been absorbed to be excreted gradually. Brandy and whisky and nitroglycerin to dilate the arterial system and cause more blood to reach the surface of the body and relieve the strain on the heart, are along the line of physiologic antidotes. After the stomach has been emptied, magnesium sulphate, or some other quickly acting saline cathartic, should be given in order to prevent absorption of any of the drug that may be in the intestines.

(*To be continued*)

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[*For other information see second page following reading matter*]

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A NEW THEORY OF SHOCK

Notwithstanding the rapid advance made in some of the fundamental problems confronting the surgeon, such as infection and hemorrhage, shock has remained more or less of an enigma. Indeed, most of the large amount of investigative work which has been done in connection with this subject has served only to enrich our knowledge of the phenomena occurring in association with it; so that although we have at present a better understanding of its symptomatology, yet almost nothing has been done which convinces us of its fundamental nature. Thus Crile[1] and Romberg and Pässler[2] have independently observed that during shock the arterial pressure falls; and from this observation they concluded that this drop of pressure was the "essential phenomenon," and that shock was fundamentally due to a vasomotor failure.

Hardly had this conclusion been reached, however, when Seelig and Lyon and others disproved it by demonstrating conclusively that instead of a failure of the vasomotor system there is actually a great activity, at least up to the last stages of shock. So no sooner has one theory been advanced to explain it than further work has served to disprove or at least to minimize the importance of that theory.

During the past two years, however, a series of articles has appeared by Yandell Henderson, of New Haven,[3] dealing with an elaborate experimental investigation of shock from an entirely new basis. Briefly, Henderson believes that the condition primarily is due to a diminished amount of carbon dioxid in the blood and tissues of the body. This lack of the normal amount of carbon dioxid is termed acapnia. His experimental results are most interesting; and they are full of much practical suggestion to the surgeon because they seem to show that some of the technic, commonly practiced, is based on erroneous ideas. In a short summary of this kind necessarily only a few of the most interesting features of the work can be cited.

Henderson reviews the literature of carbon dioxid as a hormone, or chemical regulator, of respiration to show that the failure of circulation and of the nervous system in shock and the cessation of respiration in true apnea must logically be referred to the same cause—acapnia.

Experiments on dogs, which were devised to bring about a sudden great diminution in the carbon dioxid content of arterial blood, resulted in an increase of the heart-rate up to the point of cardiac tetanus and death. Voluntarily forced breathing in man induces symptoms resembling shock, probably because the increased pulmonary ventilation results in an abnormally great exhalation of carbon dioxid. Pain, ether, excitement, sorrow, fear and other conditions inducing shock involve excessive respiration. Because a marked diminution in the amount of carbon dioxid in the arterial blood creates a lack of the normal stimulation of respiration, excessive artificial respiration in dogs for twenty-five to thirty minutes, by causing greatly increased pulmonary ventilation, is followed by a cessation of breathing so prolonged that the heart fails for lack of oxygen. During this anoxemia an acidosis occurs owing to an accumulation in the blood of products of incomplete tissue combustion. The administration of carbon dioxid gas during the period of cessation of respiration induces an immediate return of natural breathing; and the administration of oxygen affords ideal conditions for the prevention of the asphyxial acidosis. Anesthetics tend to prevent shock because they diminish the excessive respiration caused by pain. The respiratory excitement during the initial stages of anesthesia diminishes the carbon dioxid content of the blood, and thus tends to induce a subsequent failure of respiration. Similarly, ether, unless neutralized by morphin, often causes (in dogs) hyperpnea, acapnia and a consequent fatal apnea. Of particular interest in this connection are observations by W. D. Gatch[4] in several hundred anesthesias during which patients were allowed to rebreathe some of their own carbon dioxid. In no instance was there any evidence of shock. These observations seem to confirm Henderson's theory to a greater or less degree; and they lend evidence to his statement that "skilful anesthesia consists in maintaining the threshold of the respiratory center for carbon dioxid at a nearly normal level, and in avoiding the development of either acapnia or hypercapnia."

The section of the work dealing more particularly with the relation of shock to abdominal operations is of special importance because of its bearing on many cases of hitherto inexplicable postoperative ileus. It is shown that the loss of tonus of the abdominal viscera during and after laparotomy is almost certainly due to the direct exhalation of carbon dioxid from the organs during the time of exposure. Indeed, Henderson states that the common practice among surgeons of wrapping viscera in moist hot compresses repeatedly changed is an effective means of producing shock instead of pre-

1. Surgical Shock, 1899.
2. Deutsch. Arch. f. klin. Med., 1899, lxiv, 652.
3. Am. Jour. Phys.

4. THE JOURNAL, March 5, 1910, p. 775.

venting it, because by this means the exhalation of carbon dioxid from the viscera so treated is greatly facilitated. He emphasizes his assertion by experimentally producing a high grade of shock by this means. Similarly, subjecting the viscera, even while still in the abdomen, to a mild current of warm moist air, with practically no trauma, rapidly produces congestion and loss of tonus and motility. Here again the results obtained are probably due to an excessive elimination of carbon dioxid from the viscera; for when this gas is restored to the body by injections of saturated solution intravenously into the peritoneal cavity or directly into the lumen of the bowel, or by immersion of the bowel in warm saline solution saturated with carbon dioxid, an effective relief from all except the extreme stages is accomplished.

Finally, by no means the least important feature of the work is a description of a hitherto unknown "venopressor" mechanism. It is failure of this mechanism, rather than of the vasomotor apparatus, which, according to Henderson, is responsible for the phenomena, observed by Crile and others, of lowered arterial pressure and venous dilatation.

NOSTRUM ADVERTISING—LAY AND MEDICAL

Hardly a day passes that we do not receive letters from physicians protesting against the utter lack of honesty shown by some newspapers in carrying fraudulent "patent medicine" and quack advertisements. That every right-thinking man—physician or layman—has good cause for indignation in this matter, no one can deny. Many of the advertisements of nostrums and of quacks are fraudulent to a degree and as vicious as they are fraudulent. But the newspapers are not alone in these defections. Before we physicians criticize the lay press too harshly, let us be sure that we are not giving moral and financial support to medical journals which, in their own special field, are just as recreant to the trust reposed in them as any nostrum-reeking newspaper.

The "patent medicine" advertisements in the newspapers are more likely to arouse our scorn because, as physicians, we know the hollowness of the lies that characterize the claims made for these nostrums. But the difference between the falsehoods of the "patient medicine" faker and the prevarication of many exploiters of "ethical proprietaries"—heaven save the mark!—is one of degree, not of kind. The former utters the "lie direct"; the latter, the "lie with circumstance." The former frames his untruths in bald and crude Anglo-Saxon; the latter serves his fiction in the more polished Norman-French. The former defrauds and injures the public direct; the latter accomplishes the same end by the, unwitting, aid of the physician.

It is inconsistent and absurd for a physician to exhibit a spasm of indignation because some newspapers carry fraudulent medical advertising, so long as that physician is subscribing for, and supporting, a medical journal whose advertising ethics are just as low as those of the newspapers he condemns. We hold no brief for the lay press and we realize to the fullest the gross deceit, fraud and hypocrisy exhibited by some newspapers in their attitude on the subject of nostrum and quack advertising. It is a fact, nevertheless, that there are many newspapers and still more weekly and monthly magazines, whose advertising standards are infinitely higher than those adopted by a large number of medical journals. Of course it is detrimental to public health for fraudulent "patent medicines" to be advertised in the newspapers and sold to the laity. But, let us remember, it is also detrimental to the public's well-being for secret, and frequently fraudulent, mixtures to be advertised in medical journals and used by physicians on the laity. To deplore the former while we continue to tolerate the latter is neither good sense nor good morals.

THE PRESENT PLAGUE SITUATION

As has been noted in our news columns, alarming newspaper notices have recently appeared regarding the occurrence of plague in Manchuria, and these are substantially corroborated by official reports,[1] which indicate that the disease is especially severe, and that it threatens all north China.

The outbreak began Oct. 25, 1910, and from that date until Dec. 11, 1910, there had been reported 493 cases with 491 deaths, most of them having been discovered at Manchuria Station and other points near Harbin in the concession of the Chinese Eastern Railway. Cases had also occurred, however, in towns outside the railway concession, and it was recognized that the continuance of cases in these latter localities would be a constant menace even though the authorities within the conceded railroad zone were able to prevent the spread of the epidemic from already infected stations. Since the beginning of the outbreak in the vicinity of Harbin, the infection has spread to Fuchiatien, Mukden, Chang Chun, Kirin, Tientsin, Paoting-Fu, Chefoo, and Pekin. While Harbin and Mukden are the points most affected and while the mortality is largely among natives, yet in the former place eighteen Russians and one French physician have died. The infection is unusually virulent, and appears to be spreading rapidly, so that all of north China may be regarded as being threatened.

Great importance attaches to the occurrence of plague in this part of China, since it is near the seat of government, and an epidemic here may have an important bearing on international relations with that country. It is understood also that the gravity of the situation is appreciated by our government, which recognizes the great danger to life and the threatened injury to the

1. Public Health Reports, Jan. 27, 1911, p. 97.

commerce of the world. The epidemic of plague in Manchuria, however, must be regarded as an extension of the sixth pandemic of that disease, which had its origin in south China in 1893, and since that time, spread to over fifty countries throughout the world. On account of the limited amount of communication by means of ships and shipping, and the almost entire absence of immigration from north China, the epidemic of plague in Manchuria is not at present a serious menace to the health of the United States or its possessions. It indicates, however, that the infection is slowly spreading, and recalls the occurrence of outbreaks in other parts of the world, which are a distinct menace to America and its commerce. In many parts of south China plague continued to prevail during the year 1910. In Japan, cases of the disease have occurred in four important centers, including Osaka and Yokohama. In India there was an increase in the number of fatal cases as compared with the two previous years. In Argentina, Brazil, Ecuador, Peru and Venezuela, plague has also been reported during the year as being more or less widespread. In Africa, the disease has been reported from widely separated localities, and prevailed in Egypt in epidemic form. In Europe, cases and deaths were reported from St. Petersburg, Moscow and Odessa, Russia; Lisbon, Portugal; and Suffolk County, England. In the United States, two human cases were reported from rural districts of California. Plague may accordingly be regarded as now being present on every continent.

While only two human cases occurred in California, infected ground-squirrels have been reported from ten counties of that state since April, 1909, as a result of systematic examinations of 253,312 rodents. Recognition of the prevalence of the disease among ground-squirrels in rural districts, the absence of the infection from cities, the natural barrier afforded by the barren mountainous section intervening, and the prosecution of vigorous antiplague measures in the infected area, have decreased the potential danger to other sections of the country outside of California. Continuation of the systematic campaign that is now being waged against ground-squirrels should further limit this danger to the population in the infected area, and reduce the liability of the spread of the disease to a minimum.

On account of the limited communication with Oriental, African and South American ports, and because of the precautions taken at our quarantine stations, the presence of plague in these ports is not now a serious menace to the health of the country. Of greater significance is the occurrence of the disease in Europe, especially in England, as in Suffolk County rat plague is reported as being widespread, and there is said to be no precise knowledge as to how long the infection has prevailed.[2] The enormous traffic with England by means of shipping makes the prevalence of rat plague in that country a matter of immediate concern. Even though the disease should not spread there and become prevalent among man, its presence among rodents is an element of danger to shipping that must be taken into account.

In reviewing the present status of the sixth pandemic of plague, it is evident that it has begun to recede in only a few isolated localities, and that there yet remains much territory capable of infection. Since the disease seems to be primarily one of rodents, account must be taken of any unusual mortality among them, at least in all ports having relations with infected countries. It would seem, therefore, to be the duty of local health authorities to examine systematically from time to time rodents collected in their jurisdictions, to encourage the rat-proofing of houses, and otherwise to correct insanitary conditions responsible for the continuance of plague in cities.

2. Lancet, Nov. 5, 1910, p. 1353.

Current Comment

ENCOURAGING A NATIVE STRAIN

The immigration of peoples from the old countries of Europe and the consequent mingling of races is rapidly reducing and displacing the original stock of the founders of our nation, and, some believe, to the detriment of its sturdier and more desirable qualities. It will be a matter of surprise to many that in the Appalachian region of the United States, having its center, perhaps, in eastern Kentucky, there are said to be nearly three million people, of almost pure Colonial stock, largely isolated by topography and lack of transportation from much of the education and culture of the more accessible regions, but at the same time free from much of the physical and perhaps moral deterioration of the thickly populated centers. In the people of this comparatively unmixed stock many prominent men acquainted with them see a valuable asset to our nation which should be preserved and encouraged. In the center of this region is Berea College, at Berea, Ky., a religious but non-sectarian institution, with over a thousand students drawn from these people, which is endeavoring to bring to them some of the cultural advantages of the larger and better equipped and endowed schools, together with instruction in practical and technical matters such as in agriculture, mechanics, woodwork, household management, etc. The endeavor is to make the school adequate for every need of these people, and to help to build up to the highest point a community of homes and institutions that shall make these mountain regions "a good place to be born in," "a storehouse of national vigor." Toward this end the school has recently established a hospital to care for the students and a department of health to investigate the diseases which characterize the region, and to disseminate, through the student body and through the extension service which the college maintains, proper ideas of diet, cleanliness, care of the sick, the development and care of children and the thousand and one things that

make for correct hygienic living among the people. The institution, while it has a small endowment, is poor and depends largely on private beneficence. It therefore makes an appeal for support and particularly for assistance in building up its health and research department, to the end that it may, in its special field, attain the best results in fostering and improving the health, culture and practical efficiency of these real American citizens.

CARELESSNESS VS. MISREPRESENTATION

Those who have followed the work of the Council on Pharmacy and Chemistry and of the Association Laboratory in their efforts to safeguard the interests of the medical profession and the public will be interested in the report on bismuth iodo-resorcin sulphonate that appears in this issue. The case there presented is not one in which a manufacturer has deliberately misrepresented his product; rather it is a case of carelessness. In submitting its product to the Council, the firm made statements which it could, and should, have known were not true. The question arises: if a firm is careless enough to make incorrect statements to the Council on Pharmacy and Chemistry which it knows will critically examine the claims, what degree of "carelessness" may be expected when the products are exploited direct to physicians? The answer, which must occur to any thinking person, is such as to make one pause.

EMPLOYMENT FOR CURED TUBERCULOSIS PATIENTS

With the rapid increase in sanatoriums, both public and private, for the treatment of tuberculosis, the employment of the considerable number of persons discharged from them with the disease either arrested or cured has become a problem of importance, and one that is not easy of solution. It is believed by many with experience in this regard, however, that unless the conditions are too bad, or impossible, the ex-patient with his sanatorium education in hygiene and correct living, should return to his former occupation. It frequently has been found that perhaps the fourteen or sixteen hours outside of the shop or office have contributed more to the patient's breakdown than the eight or ten working hours. The readjustment to a new occupation is not always feasible, and may entail financial sacrifices that are impracticable for the patient. In cases in which it is not possible for the patient to return to his former occupation, a partial solution of the problem has been found in the training of the discharged women patients as nurses for the care of tuberculosis patients. This plan was adopted in the Phipps Institute in 1903 and has been extended to the White Haven Sanatorium in Pennsylvania, to the Ohio State Sanatorium and to other institutions where training-schools have been established. Dr. Lawrence F. Flick,[1] in describing the results of this work in Pennsylvania during the past seven years, says that it is the unanimous opinion of those who have watched these graduates in their work that the occupation of nursing consumptives is one of the best which a cured consumptive woman can take up for the preservation of her own health; and that the cured consumptive who has been trained for tuberculosis work makes by far the best nurse for tuberculosis patients. The confidence which such cured patients get from their experience, and the living evidence of the curability of tuberculosis which they themselves furnish, help them to win the confidence of their patients and to secure their cooperation. There are more demands from sanatoriums and dispensaries for these graduate nurses than can be supplied. The entrance of such trained women into this field brings a missionary spirit which means much in the crusade against tuberculosis.

[1] Jour. Outdoor Life, January, 1911.

THE DANGER FROM TRANSMISSION OF INFECTIOUS MATERIALS BY MAIL

Occasionally complaints are made to the effect that the sending of pathologic and bacteriologic materials through the mails by physicians and others constitutes a dangerous menace to public health. There is no good reason for fear of this kind at the present time. The postal regulations prescribe with great exactness just what materials of the kind now in mind may be sent and how they must be packed in order to be accepted for transmission. Failure to follow instructions is subject to heavy penalties. The packages required certainly appear proof against accidental spilling. The only possible danger will arise from improperly and carelessly packed materials. So far as it is now known, there are no records of definitely established instances of spread of infection through carelessness of this nature. But it should be borne in mind that it is not only a great convenience but in most cases an actual necessity to send material away for examination; in probably the majority of the cases this is done in order that public health may be protected by the application of the results of the examination. It is needless to say that whatever the mode of transmission, all infectious materials must be so packed as to avoid all danger, and that this simple duty is everywhere fully recognized by the conscientious physician.

OPIUM PRODUCTION IN THIS COUNTRY

It is said that an application has been made to the collector of internal revenue at Chicago for a license to manufacture opium for smoking purposes. As the revenue law forbids the importation of opium, except for medicinal purposes, the applicant was naturally asked where he expected to get his supply. He replied that he expected to produce it himself from a plantation already in existence in this country. If this is true, it affords some room for reflection. Laws against the importation of opium will be of little effect if its production is successfully undertaken in our own country; and how far this may be done is worth investigating. In view of our wide range of climate and soil there is little doubt that the opium poppy can be successfully cultivated here. In fact, opium of good quality has been produced in the

United States, but hitherto the expense has been prohibitory from a commercial point of view. If opium can be cultivated here in commercial quantities, some legislation is needed. When China is prohibiting an abuse which is disastrous to the physical and moral welfare of the people, it is no time for the United States to encourage it. Opium should be produced only under the strictest regulations.

NEED OF CAUTION IN THE USE OF SALVARSAN

The introduction of a new drug or the announcement of a new method of treatment is always attended by two possible evils. One is the unwarranted optimism aroused by the claims made by over-enthusiastic advocates. This evil is corrected by time, added experience and critical investigation, and while it often leads to disappointment, it is apparently unavoidable. The second and far more dangerous evil is the exploitation of the new discovery by the faker and the quack who are quick to seize the golden opportunity offered and to use the public interest for their own selfish advantage. Such has been the history of every great discovery in medicine. It therefore behooves both the medical profession and the public to exercise a healthy skepticism regarding first claims made for any newly discovered method of treatment. In view of the enthusiasm which greeted the discovery of salvarsan ("606"), it is not surprising to know that it is not fulfilling the first claims made for it and that the public interest aroused by it is being used by fakers and charlatans to deceive and defraud the public. In another department of THE JOURNAL[1] appears a discussion of our present knowledge of salvarsan, its limitations and dangers and the use which is being made of it by quacks. It is the duty of every physician to inform himself on this subject so as to be able to enlighten his patients and the public. In the general enthusiasm over the discovery of a drug which gives promise of being a valuable addition to our armamentarium, it must not be forgotten that salvarsan is an arsenic compound and, as such, is a dangerous poison unless used intelligently; that it can be administered only hypodermically or intravenously, and consequently cannot be self-administered by the patient; that its use may be followed by serious and even disastrous results, and that it should, in no case, be taken except under the personal direction of a competent physician. The extent of the ravages of specific diseases is shown by the almost universal interest aroused by the announcement of this discovery. Physicians and medical societies should see to it that this interest is not taken advantage of by quacks to exploit, to their own gain, the diseased and the unfortunate.

Repair of Fractures.—From a practical viewpoint, the processes entering into the repair of fractures are manifestly those of effusion and infiltration and their proper management; resorption of the effused fluids and particles of destroyed tissue material; the utilization of the callus to the best advantage by ideal fixation; retention following the fixation; and to these principles may be added the prevention of callus redundancy, which is usually the result, it may be added, of undue mechanical irritation or imperfect approximation.—G. F. Roehrig, in *Denver Medical Times and Utah Medical Journal.*

1. See page 436.

Medical News

CALIFORNIA

New County Society.—The Tulare County Medical Society has been organized at Visalia with the following officers: president, Dr. Thomas DeH. Blodgett, Tulare; vice-president, Dr. Mark L. Pettit, Visalia, and secretary-treasurer, Dr. F. Leslie Stallings, Lindsay.

Physicians On Trial.—Dr. Willard P. Burke, Santa Rosa, charged with having dynamited a tent-house where a former employee and her child were sleeping, is said to have been found guilty, January 27.——The coroner's jury in the case of Millie Conee who died at the Mount Zion Hospital, San Francisco, recently, rendered a verdict that the girl had died from the effects of an abortion, which was inflicted by herself. The verdict completely exonerated Dr. Marion Thrasher.

Personal.—Dr. C. W. Harvey, Anaheim, has succeeded Dr. Clayton L. Rich, Fullerton, as district and local surgeon for the Santa Fe Railroad.——Dr. and Mrs. William H. Mays, Newman, sailed for the Mediterranean, February 4.——Dr. Charles L. King, Pasadena, fractured his left leg and sustained many bruises and cuts, in a collision between his automobile and a street car, January 27.——Dr. William F. McNutt, San Francisco, was painfully injured by falling on a slippery pavement.——Dr. George L. Eaton, San Francisco, has been unanimously elected president of the local board of health.

CONNECTICUT

New Superintendent.—Dr. Donald L. Ross, assistant physician in charge of the reception of patients at the King's Park Hospital for the Insane, New York, has been appointed superintendent of the Connecticut Colony for Epileptics, Mansfield.

Donates Tuberculosis Pavilion.—A gift of $25,000 has been made to the town of Greenwich by Mrs. Nathaniel Witherell for the erection of a tuberculosis pavilion on the grounds of the Greenwich General Hospital, to be known as "The Nathaniel Witherell Memorial."

Society Meetings.—The surgical section of the Hartford Medical Society at its annual meeting, held January 3, reelected Dr. Arthur J. Wolff, chairman; Dr. Ernest A. Wells, secretary; Dr. Thomas N. Hepburn, treasurer, and Dr. Charles E. Taft, member of the executive committee.——The Bristol Medical Society at its annual meeting elected Dr. Charles R. Upson, president; Dr. E. Parker Sanborn, vice-president, and Dr. Benedict N. Whipple, secretary and treasurer.——The annual meeting of the Hartford Medical Society was held in Hunt Memorial Building, January 2, and the following officers were elected: president, Dr. Marcus M. Johnson; vice-president, Dr. Oliver C. Smith; secretary, Dr. Albert R. Keith; assistant secretary, Dr. Edward A. Hotchkiss; treasurer, Dr. George K. Welch; librarian, Dr. Walter R. Steiner, and censors, Drs. Charles S. Stern, John B. Waters and Edward O. Elmer.——The Society of Regular Physicians held its annual meeting in New Britain, January 3, and elected the following officers: Dr. Catherine H. Travis, president; Dr. James H. Potts, vice-president; Dr. George H. Bodley, secretary and treasurer, and Drs. Maurice W. Maloney, William W. Brackett and Samuel W. Irving, censors.

DISTRICT OF COLUMBIA

Personal.—Dr. Percy G. Smith, superintendent of the District Tuberculosis Hospital has resigned and has been succeeded by Dr. William D. Tewksbury.——Dr. Harvey W. Wiley has been elected president of the Cosmos Club.——Dr. Ernest P. Magruder has returned from abroad.——Dr. Benjamin R. Logie has succeeded Dr. Presley B. Hunt, deceased, as alienist for the district.

District Society Election.—The Medical Society of the District of Columbia, at its annual meeting, elected the following officers: president, Dr. Wilfred M. Barton; vice-presidents, Drs. Walter A. Wells and Hanson T. A. Lemon; corresponding secretary, Dr. Thomas C. Smith; recording secretary, Dr. Henry C. Macatee; treasurer, Dr. Charles W. Franzoni (thirty-ninth term); librarian, Dr. Edwin L. Morgan, and censors, Drs. D. Olin Leach, Henry B. Deale, Francis R. Hagner, Joseph S. Wall and John F. Moran.

FLORIDA

State Laboratory.—A state laboratory is to be erected in Jacksonville for the state board of health.

Health Ordinance Violators Fined.—Two negroes of Jacksonville were each fined $2.00 by the justice of the municipal court for violating the health ordinance by not keeping their property clean.

Hospital Corps Organized.—A meeting of the medical officers of the National Guard of Florida was held in Jacksonville, January 25, to organize a field hospital for the state. Dr. Guy P. Holden, Jacksonville, First Lieutenant, M.C., N.G.F.A., is in command of the corps.

Society Meeting.—Orlando County Medical Society, at its annual meeting held in Orlando, elected Dr. William C. Persons, Orlando, president; Dr. Thomas A. Neal, Sanford, vice-president; Dr. Garton H. Edwards, Orlando, secretary, and Dr. Sylvan McElroy, Orlando, treasurer.

GEORGIA

Personal.—Dr. Faris C. Richards, Jasper, was thrown from his buggy, fracturing his right femur and dislocating his left shoulder.——The Medical College of Georgia, Augusta, has added to its faculty the following demonstrators; obstetrics, Drs. Andrew J. Kilpatrick and John M. Caldwell, and otology, Dr. James R. Littleton.——Dr. John T. Moncrief, chairman of the police commission of Columbus, has resigned.——Dr. Robert C. Swint, assistant on the medical staff of the State Sanitarium, Milledgeville, has resigned.

Election of Officers.—Clark County Medical Society, at its meeting held in Athens, elected the following officers: president, Dr. Dan H. Dupree; vice-president, Dr. Singleton S. Smith; secretary-treasurer, Dr. John Gerdine; censors, Drs. William A. Carlton, Millard F. Matthews and Allen C. Holliday; delegate to the state association, Dr. Henry M. Fullilove, and alternate, Dr. John C. McKinney, all of Athens.——At the annual meeting of the Fulton County Medical Association, held in Atlanta, the following officers were elected: president, Dr. Edgar G. Ballenger; vice-president, Dr. L. Benjamin Clarke; secretary, Dr. Richard R. Daly; treasurer, Dr. Arnold H. Lindorme and censor, Dr. Frederick G. Hodgson, all of Atlanta.——At the annual meeting of the Richmond County Medical Association held in Augusta, January 25, the following officers were elected: Dr. Charles W. Crane, president; Dr. G. A. Traylor, vice-president; Dr. James B. Wright, secretary-treasurer; Drs. Noel M. Moore and Thomas D. Coleman, censors; Dr. James R. Littleton, delegate to the state association and Dr. William R. Houston, alternate, all of Augusta.

ILLINOIS

Personal.—Dr. Charles C. Kost, Dixon, has been appointed district surgeon of the Illinois Central Railroad, vice Dr. Abraham L. Miller, resigned.——Dr. Christian H. Zoller, Granite City, has been appointed superintendent of the Granite City Lutheran Hospital.

The Last of the Physiomedical Colleges Changes Faith.—Last month at a meeting of the stockholders and trustees of the College of Medicine and Surgery, Chicago, the last of the physiomedical colleges, the corporate name was changed to the Chicago Eclectic Medical College. It is stated that the school will hereafter be conducted as an eclectic college.

Law-Breakers Caught.—Dr. J. A. Roy, Lewistown, against whom a judgment is said to have been secured some time ago for practicing medicine without a license, and against whom a fine of $100 was assessed, gave himself up to the sheriff, January 20, and will serve a sentence of twenty days in jail.——George Griffith, Strasburg, an itinerant medicine vender, who was sued by the state's attorney for peddling medicine without a license is said to have consented to settle the case without a trial on the imposition of a fine of $100 and costs and has promised to go out of business.

Hospital at Clinton.—The Dr. John Warner Hospital, Clinton, is almost ready for opening; the delay is due only to the failure of some of the equipment and furniture to arrive. On the first floor of the institution are the superintendent's room, nurses' rooms, kitchen, dining room, reception room and men's ward, which latter is to be furnished by the Illinois Central Railroad. On the second floor of the institution are most of the private rooms, the women's ward and children's ward. On the third floor the operating rooms, dressing rooms and sterilizing rooms will be located. The physicians of DeWitt County have decided to furnish the operating room of the hospital.

Chicago

Schools Named for Physicians.—Dr. Frank J. Jirka states that THE JOURNAL omitted from the list of physicians after whom Chicago public schools have been named, that of his father, the late Dr. Frank J. Jirka, who was for many years a member of the public school board of Chicago.

Personal.—Dr. David J. Davis, of the Memorial Institute for Infectious Diseases, has been appointed pathologist to St. Luke's Hospital.——Dr. Christian J. Hartung was struck by a street car, February 2, and seriously injured.——Dr. Strother J. Beeson has left for a trip to the West Indies and South America.

INDIANA

Illegal Practitioner Fined.—Dr. A. E. Uetz, Ellwood, charged with practicing medicine without a license, is said to have pleaded guilty, January 25, and to have been fined $25 and costs.

License Renewed.—The State Board of Examination and Registration, on petition of physicians of Allen County and a number of citizens, has renewed the license of Dr. McKendre Green, Pleasant Lake, which was revoked nearly three years ago.

Antituberculosis Hospital Open.—The first patients were received in Boehne Camp, near Evansville, January 11. The hospital, an open-air farm, completed through the energetic work of the antituberculosis society aided by the donation of Congressman Boehne, can now accommodate fourteen patients.

Metaphysical Healer Fined.—The Supreme Court, on January 25, confirmed the decision of the May circuit court, which assessed a fine against Mrs. Lyda Hazlett, Richmond, for prescribing medicine without a license. The suit was brought following the death of a 14-year-old girl in an institute, conducted by the defendant, known as the "Metaphysical Healing Home."

Verdict Against Practitioner.—By agreement of the contending parties a judgment of $1,500 damages in favor of Arman Rankin, a minor, is said to have been entered in the circuit court of Indianapolis, Dec. 30, 1910, against Dr. Robert O. McAlexander, in a suit brought on behalf of the plaintiff to recover damages for alleged unskilful setting of the bones in a fracture of the leg.

Personal.—Dr. J. Herbert Brewster, for three years head of the water laboratory of the State Board of Health, has resigned.——Dr. A. C. Lucas, Indianapolis, was struck by a street car January 25, but was not seriously injured.——Dr. C. D. Pettigrew, Logansport, whose license to practice was revoked recently by the State Board, was tried, January 30, on the charge of practicing without a license, instituted by the Cass County Medical Society, and, on the first ballot, was acquitted.

Gift to University.—Dr. Robert W. Long and wife, Indianapolis, have made a donation of $200,000 in real estate to the Medical Department of the State University. Dr. Long desires that the legislature provide sufficient funds for the maintenance of a hospital free to all citizens of the state, and connected with the medical department of the state university. His plans also include the selling of the present building of the medical college in Indianapolis and the erection of new and more commodious buildings on the land owned by the state. His idea, eventually, is to increase his donation to $500,000.

Elections.—At the annual meeting of the Indianapolis Medical Society, the following officers were elected: Dr. Albert C. Kimberlin, president; Dr. Norman E. Jobes, vice-president; Dr. Roscoe H. Ritter, secretary-treasurer; Drs. William F. Clevenger and Walter D. Hoskins, members of the judicial council; Drs. Harry E. Gabe, Thomas B. Eastman and Francis B. Wynn, delegates to the state medical association, and Drs. Charles A. Pfafflin, Thomas C. Kennedy and Mitchell O. DeVaney, alternates.——At the annual meeting of Vanderburg County Medical Society, held in Evansville, Dr. Charles Knapp was elected president; Dr. Porter H. Linthicam, vice-president; Dr. William R. Davidson, secretary (reelected), and Dr. Benjamin L. W. Floyd, censor, all of Evansville.——Tippecanoe County Medical Society, at its meeting in Lafayette, elected the following officers: Dr. Milton C. Wilson, president; Dr. George F. Keiper, vice-president; Dr. William M. Reser, secretary (reelected); Dr. Charles Hupe, treasurer and Dr. George F. Beasley, censor, all of Lafayette.——At the annual meeting of Madison County Medical Society, Dr. Joseph E. Hall of Alexandria, was elected president, and Dr. Etta Charles, Summitville, secretary-treasurer.

XUM

IOWA

New Hospitals.—The City Park Hospital Company of Mason City has reorganized and a lot has been purchased on which a building to cost $75,000 will be erected.——Dr. Clyde A. Noland, Ogden, has opened a hospital in that town with accommodation for five patients.

Society Meetings.—Blackhawk County Medical Society, at its annual meeting January 10, elected Dr. William G. Mullarky, Cedar Falls, president; Dr. John E. O'Keefe, Waterloo, vice-president; Dr. Carl C. Bickley, Waterloo, secretary (re-elected); Dr. Will L. Hearst, Cedar Falls, treasurer, and Dr. Frank N. Mead, Cedar Falls, censor.——At the annual meeting of Scott County Medical Society held at Davenport, January 2, Dr. Albert W. Elmer was elected president; Dr. John C. Murphy, vice-president; Dr. John V. Littig, secretary-treasurer; Dr. Frederick Lambach, delegate to the state society, and Dr. George E. Decker, alternate, all of Davenport.——Page County physicians met in Coin, December 28, to reorganize the county medical association, and after some preliminary work adjourned to meet the following week at Blanchard.——The annual election of Lee County Medical Association resulted in the choice of Dr. Coral R. Armentrout, Keokuk, president; Dr. William C. Kasten, Fort Madison, vice-president, and Dr. Ernest G. Wollenweber, Keokuk, secretary-treasurer.——Fort Madison Medical Society, at its annual meeting elected Dr. John W. Philpott, president; Dr. Charles O. Wilkin, vice-president, and Dr. J. G. Rea, secretary-treasurer.——At the thirty-eighth annual meeting of the Marion County Medical Society, held in Knoxville, Dr. Clarence E. James, Durham, was elected president; Dr. Arthur M. Merritt, Pleasantville, vice-president; Dr. Corwin W. Cornell, Knoxville, secretary-treasurer, and Dr. J. M. Weiss, Knoxville, censor.

KENTUCKY

Health of Jefferson County.—The annual report of the Jefferson County Board of Health has just been published. It shows that though the population of the county has increased 25 per cent., the best available statistics show a decrease in the death-rate of 1 per cent. Among the causes assigned to the lessening of illness the board mentions the drainage of swamp lands; the improvement in water supply; the keeping of stagnant water from the side of the highways and the spreading of crude oil on the county roads. The number of cases of tuberculosis is greater than ever before. There is a noted decrease in typhoid fever since the filtration plant has been in operation, but many cases are still reported along the line of small streams which feed the wells and springs. There were only sixteen cases of diphtheria reported, with no fatality. There were fifty-one cases of scarlet fever with three deaths, and five cases of small-pox. The secretary urges the establishment of an abattoir as the public has practically no protection against diseased and carelessly handled meats. Much space is given in the report to the condition of the milk supply of Louisville.

LOUISIANA

Small-Pox on Steamer.—Small-pox has developed on board the United States Engineers' steamer, *Delatour*, in Bayou Teche. The patients have been placed on a house-boat and thorough preventive measures have been undertaken.

The Health Train.—Up to the first of the year, the health exhibit train sent out by the State Board of Health has visited twenty parishes and fifty-two towns and it is estimated that 5,600 people have visited the car and that 1,500 have attended the meetings and lectures on hygiene and sanitation. The train is expected to tour Mississippi after the work in Louisiana is finished.

Hospital News.—The ordinance recently passed which makes the new building for the insane at the New Orleans House of Detention a city hospital for mental diseases, provides that it shall be the privilege of any indigent person residing in Orleans parish to make formal application for admission to the hospital, and, if found mentally unsound, to receive the benefit of medical care and treatment in the institution. The new building will be ready this month.——The free clinic of the new Presbyterian Hospital, New Orleans, located at 730 Baronne Street, opened January 16.

Parish Society Elections.—At the annual meeting of the Avoyelles Parish Medical Society held in Mansura, January 6, the following officers were elected: president, Dr. Remy G. Ducote, Bordelonville; vice-president, Dr. William A. Quirk, Evergreen; secretary-treasurer, Dr. Merrick E. Saucier, Marksville, and delegate to the state medical society, Dr. Thomas A. Roy, Mansura.——Rapides Parish Medical Society at its annual meeting, January 2, held in Alexandria, elected the following officers: president, Dr. Richard F. Harrell, Alexandria; vice-presidents, Drs. Edward F. Luckett, Loyd, and John L. Wilson, Alexandria; and secretary-treasurer, Dr. James A. White, Alexandria.

Personal.—Dr. Hamilton P. Jones, Pure Food Commissioner of Louisiana for the last four years, has resigned.——The board of managers of Touro Infirmary, New Orleans, have made the following appointments: surgical department, Dr. Russell E. Stone; pediatric department, Dr. Ruffin T. Perkins; gynecologic department, Dr. Paul T. Talbot; eye, ear, nose and throat department, Dr. Emile S. Keitz.——The Lafayette Sanitarium Association has reelected the following directors: Drs. John E. Mouton, Frederick R. Tolson, Lambert O. Clark and Nathaniel P. Moss.——Drs. Alonzo Givens and Ruffin B. Paine have been elected members of the Mandeville Board of Health, and, at the first meeting of the board, January 17, Dr. Paine was elected president.——Dr. John Callan, New Orleans, has been elected a member of the board of managers of the Tulane Fund vice Rev. Beverly Warner, deceased.——Dr. W. E. Dillon, Many, has been elected president of the Sabine Parish Board of Health, vice Dr. Willie E. Tatum, Converse, resigned.——Dr. Joel A. Selby, Shreveport, was thrown from his buggy in a runaway accident recently, fracturing a leg.

NEBRASKA

Demonstrators' Association Elects.—Dr. Wightman, Omaha, has been appointed president of the Nebraska Demonstrators' Association, vice Dr. E. Arthur Carr, Lincoln; Dr. Charles W. McC. Poynter, Lincoln, secretary, and Dr. O. Olson, Lincoln, vice-president and treasurer.

Personal.—Dr. Malcolm Stewart, Tecumseh, has been appointed a member of the newly organized Johnson County Board of Health.——Dr. Mark W. Baxter has resigned the superintendency of the Nebraska State Hospital, Ingleside, and will locate in Hastings.——Dr. Charles S. Currie, Beatrice, has been appointed physician of Gage County.

Society Meetings.—At the annual meeting of the Johnson County Medical Society held in Tecumseh, January 19, Dr. Charles H. Davies, Tecumseh, was elected president; Dr. Nils P. Hanson, Elk Creek, vice-president; Dr. Albert P. Fitzsimmons, Tecumseh, secretary-treasurer, and Dr. George J. Rubelman, Tecumseh, censor.——The Republican Valley Medical Association, at its annual meeting held in Hastings, January 26, elected Dr. Llewellyn L. Jones, Hastings, president, and Dr. Robert S. Mitchell, Red Cloud, vice-president, and reelected Dr. James N. Campbell, Stamford, secretary, and Dr. William D. Shields, Holdrege, treasurer.——The Dawes County Medical Association at its meeting in Chadron, elected Dr. Benjamin F. Richards, Crawford, president; Dr. E. L. Vernon, Chadron, vice-president; Dr. George W. Deemer, Chadron, secretary, and Dr. James E. Hartwell, Crawford, delegate to the state association.——The Howard County Medical Association, at its annual meeting held in St. Paul, elected Dr. Peter M. Pedersen, Dannebrog, president and delegate to the state association; Dr. John F. Hart, Elba, vice-president, and Dr. Charles C. Paxton, St. Paul, secretary-treasurer.

NEW HAMPSHIRE

Registration of Tuberculosis.—The house of representatives has passed a bill providing for the registration of all cases of tuberculosis.

Bequest to Hospital.—By the will of the late Dr. George F. Wilber, Nashua, about $60,000 is bequeathed to the Nashua Emergency Hospital.

Public Drinking Cup Must Go.—The lower branch of the legislature concurring with the senate, January 25, passed a bill giving the State Board of Health authority to "restrict the use of drinking cups in public places."

Personal.—Dr. George W. McGregor, Littleton, is spending the winter in Aiken, S. C.——Dr. John M. Gile, Hanover, has been elected a member of the governor's counsel.——Dr. George A. Weaver, Warren, has been appointed a member of the local board of pension examiners of Plymouth.

Society Meetings.—At the seventh annual meeting of the Grafton County Medical Society held in Woodsville, Dr. William E. Lawrence, North Haverhill, was elected president; Dr. John Wheeler, Plymouth, vice-president; Dr. George A. Weaver, Warren, secretary-treasurer; Dr. Charles R. Gibson, Woodsville, delegate to the state medical society and Dr. Elmer H. Carleton, Hanover, censor.——The New Hampshire

medical club at its fifteenth annual meeting in Hanover elected the following officers: president, Dr. John W. Staples, Franklin; vice-president, Dr. Clifton S. Abbott, Laconia, and secretary-treasurer, Dr. Frank E. Kittredge, Nashua.

NEW JERSEY

New Infirmary.—Princeton University is soon to have a larger and more complete infirmary. The endowment fund for the building amounting to about $100,000, has been raised by the Women's Auxiliary Society of Princeton.

Medical League Meeting.—The Newark Medical League held its annual banquet, January 26, at which 116 were present. Dr. William J. Robinson, New York City, read a paper on "The Improvement of the Human Race," Dr. David A. Kraker acted as toastmaster and the following officers were elected: president, Dr. Louis Weiss; vice-president, Dr. Edwin Steiner; secretary, Dr. Abraham Finkelstein, and Treasurer, Dr. Louis L. Davidson.

Election.—Orange County Medical Society held its annual meeting January 20, in the William Pierson Medical Laboratory, Orange. Dr. Richard D. Freeman, South Orange, was elected president; Dr. Levi W. Halsey, Montclair, vice-president; Dr. Henry A. Pulsford, South Orange, secretary; Dr. J. Minor Maghee, West Orange, treasurer; Dr. Charles W. Banks, East Orange, reporter, and Drs. Richard P. Francis and Richard C. Newton, Montclair, and Dr. William H. Lawrence, Summit, censors.

NEW YORK

Crippled Children.—The tenth annual report of the board of managers of the New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw, states that out of eighty patients treated, thirty-three were discharged. There was a far larger number of applicants than could be accommodated, and plans for a new and more extensive hospital have been prepared and it is stated that work on the structure will be begun immediately.

Wins Test Case.—In the case of the Hempstead town board of health against Dr. A. Ferree Witmer, Freeport, charged with failure to record a certificate of birth within thirty-six hours, as provided by ordinance, the judge rendered a decision for the defendant on the grounds that the ordinance naming the fine was not specific. Dr. Witmer made this a test case on the grounds that the ordinance was too broad and also that the penalty provided was not less than $10 and not more than $25.

Proposed Legislative Measures.—A resolution asking for the appointment of a commission to investigate tuberculosis conditions in the state and to devise remedial legislation has been prepared for presentation to the legislature. Another resolution proposes the erection of a state hospital for the treatment of tuberculosis in the Adirondacks, through an amendment to the constitution authorizing the legislature to set apart an area of a thousand acres or less in the Adirondack State Park for hospital purposes.

To Check Insanity.—The annual report of the State Commission in Lunacy, recently transmitted to the legislature, states that the number of insane in the state on Sept. 30, 1910, was 32,658. The number in state hospitals was 31,606; in licensed private institutions, 1,052, and in Matteawan and Dannemora, institutions for the insane criminal, 1,161. The total number of patients received during the year was 7,063, a net increase of 1,119. The report states that addresses on the prevention of insanity will be made in the Academy of Medicine, New York City, and later in many parts of the state, to be followed by a series of public lectures illustrated by moving pictures depicting life of the insane in the modern hospital and the remedial measures employed. Pamphlets informing the public of the avoidable causes of insanity will be issued for distribution to high school and college students, church organizations and philanthropic associations throughout the state.

New York City

Personal.—Dr. Charles H. May has been appointed consulting ophthalmologist for the fourth division of Bellevue Hospital.——Dr. Charles L. Vaux, Central Islip, has been appointed second assistant physician at the State Hospital, in that place.

Bequests.—Among the many bequests mentioned in the will of the late Mrs. Emily H. Moir, are the following to hospitals: New York Eye and Ear Infirmary, $20,000; Lying-In Hospital, $10,000; Hospital for Scarlet Fever and Diphtheria, $10,000; Baby's Hospital of the City of New York, $10,000; Presbyterian Hospital, $20,000; Northern Dispensary, $5,000, and Nursery and Child's Hospital, $5,000.

Report of Beth Israel Hospital.—At the annual meeting of the Beth Israel Hospital Association the report showed that 4,754 persons had applied for treatment during the year of whom 1,317 were rejected for lack of room. Of the patients treated more than 94 per cent. were treated as charity cases. The report emphasizes the need of a larger building and efforts will be made to find a site for a new bulding. The total subscriptions to the building fund now amount to $188,609.

The Deaths of 1910.—During the year 76,742 deaths were recorded, equivalent to a death-rate of 15.98 per 1,000, a little lower than that of 1909, and the lowest rate ever on record in the city. If the average death-rate which had prevailed during the previous decade had continued during 1910, there would have been 13,076 more deaths in the latter year than were recorded. All the causes of death amenable to sanitary control show decreases. Most prominent among these may be named tuberculosis, 1,840; diarrheal diseases, 1,151; diphtheria, 608; typhoid fever, 258; whooping-cough, 167; measles, 165; malarial fever, 93; small-pox, 89, and scarlet fever, 32. Among other prominent death causes which showed decreases were: apoplexy, 1,974 (this is probably due to more accurate certification); pneumonia, 2,203; bronchitis, 850; nephritis, 1,317; accidents, 773, and suicide, 153. Those diseases showing increases were cancer, 230; organic heart disease, 93; cirrhosis of the liver, 25; appendicitis, 23, and homicide, 63.

Pasteurization and Grading of Milk.—The department of health, at its meeting, January 31, adopted resolutions relative to the pasteurization and grading of milk which provide that all milk and cream offered for sale in the city, except that used for manufacturing or cooking purposes, must be of the grade technically recognized by the board of health as certified or guaranteed milk or must be pasteurized under the conditions prescribed by the board. Grade A, for infants and children, is to be sold in bottles, only. This includes certified milk, guaranteed milk or milk pasteurized under special regulations. Grade B, milk safe for adults, to be sold in bottles or drawn from containers, not dipped. This includes Grade A, and pasteurized milk produced under the regulations of the department. Grade C, milk suitable for cooking and baking purposes to be sold from bottles or from cans. This includes all milk complying with the general regulations of the department, but not complying with the regulations made for A and B. No one should use milk inferior to Grade A for feeding an infant or child. Every person purchasing milk for drinking purposes is entitled to receive milk not inferior to Grade B. The efforts of the department of health in the supervision of milk should be especially concentrated on Grades A and B.

Hospital News.—At the fifty-eighth annual meeting of the Mount Sinai Hospital Association it was reported that the deficit had been reduced to $10,803. Legacies and bequests received during the last year amounted to $73,762 and $52,000 was received for the establishment of beds. The hospital has taken the initiative in planning an association of children's clinics throughout the city, and Adolph Lewisohn has promised $130,000 additional, making $200,000 in all, for the erection of a larger building for the accommodation of the pathologic department.——At the annual meeting of the officers of Stony Wold Sanitarium, which cares for cases of incipient tuberculosis, it was reported that 144 new patients had been admitted during the year. More than two-thirds of the patients have been discharged as cured since the sanitarium opened and these have been followed and report that they are as well as when they left the institution. The sanitarium has a deficit for the last four years of $20,000.——Between $11,000 and $12,000, was realized from the performance of "Romeo and Juliet" at the Metropolitan Opera House for the benefit of the French Hospital.——The twenty-first German Charity Ball netted $10,000, which will go toward the support of ten different German charitable and philanthropic institutions.——The Norwegian Hospital of Brooklyn has received $15,000 from Jens Skougaard, formerly president and treasurer of the board of managers of this hospital. The money will be added to the endowment fund of the hospital which now amounts to $25,000.

TENNESSEE

Small-Pox at State Prison.—Seven cases of small-pox are reported at the state penitentiary, Nashville. All possible precautions are being taken to prevent the spread of the disease.

Personal.—Dr. Peter S. Hagar has been elected city prescriptionist of Nashville, vice Dr. John G. Buford, deceased. ——Dr. Cary Snoddy has been reelected Superintendent of Knoxville General Hospital; Dr. Samuel H. Hodge has been

XUM

elected member of the visiting and consulting staff, and Dr. V. D. Holloway, pathologist.——Dr. Ambrose McCoy, Jackson, has been appointed a member of the State Board of Medical Examiners.

Society Elections.—The Chattanooga and Hamilton County Medical Society, at its annual meeting in Chattanooga, elected the following officers: president, Dr. James H. Atlee; vice-president, Dr. Frank T. Smith; secretary-treasurer, Dr. Hiller P. Larimore (reelected), and censor, Dr. Samuel I. Yarnell, all of Chattanooga.——Sumner County Medical Society has elected the following officers: president, Dr. William T. Allen, Gallatin; vice-president, Dr. Bruce S. Galbraith, and secretary-treasurer, Dr. Walter S. Dotson, Gallatin.——At the annual meeting of the Memphis and Shelby County Medical Society held in Memphis, Dr. W. Battle Malone was elected president; Dr. J. Wesley Price, vice-president and Dr. Buford N. Dunavant was reelected secretary, all of Memphis.

TEXAS

On Trial for Selling Diplomas.—Dr. J. W. Decker, dean of the Gate City Medical College, which now has its headquarters at Dallas, Texas, is reported to be on trial in the federal court of Dallas, on the charge of using the mails to defraud. Mr. J. N. Wilkerson, the attorney for the Texas State Board of Medical Examiners, is said to have succeeded in securing a medical diploma within thirty minutes after he made application for it.

Society Meetings.—The Matagorda County Medical Association, at its meeting in Bay City, January 16, elected Dr. Edward E. Scott, president; Dr. J. W. Reed, vice-president; Dr. James E. Simons, secretary, and Drs. Baxter Smith and Stephen A. Foote, delegates to the state association, all of Bay City.——At the annual meeting of the Galveston County Medical Society, held in Galveston, January 12, Dr. Howard R. Dudgeon was elected president; Dr. H. O. Sappington, vice-president; Dr. James Greenwood, Jr., secretary-treasurer, and Dr. Ashley W. Fly, delegate to the state medical association, and Dr. Henry C. Hayden, alternate, all of Galveston.——At the meeting of the Port Arthur Medical Society, January 9, Dr. L. F. Bland resigned as secretary and was succeeded by Dr. Pat Reed.——Lemar County Medical Society, at its annual meeting in Paris, January 7, elected the following officers: Dr. John B. Chapman, president, Dr. Andrew J. Rush, vice-president; Dr. James M. Hooks, secretary and delegate to the state association, all of Paris, and Drs. John D. McMilllan, Paris, L. B. Stephens, Brookston, and Marcellus A. Walker, Paris, censors.——At a recent meeting of the health officers of Texas in Houston, the Texas Tropical Disease Research Society was organized with about 125 members. The following officers were elected: president, Dr. William M. Brumby, San Antonio; vice-presidents, Dr. Charles A. R. Campbell, San Antonio, and Charles L. King, Whitesboro, and secretary-treasurer, Dr. E. H. Lancaster, Houston.——At the annual meeting of the Central Texas Medical Association, held in Temple, January 16 and 17, Dr. Walter H. Allen, Marlin, was elected president, and Dr. Howard M. Lanham, Waco, secretary-treasurer.——The North Texas Medical Association, at its annual meeting held in Dallas, elected the following officers: president, Dr. Carey A. Gray, Bonham; vice-presidents, Drs. William G. Harris, Plano, and K. Herberden Beall, Fort Worth; secretary-treasurer, Dr. H. Leslie Moore, and Drs. John B. Smoot, Dallas, and Dr. S. D. Moore, Van Alstyne, judicial council.——At the annual meeting of the Seventh District Medical Society held in Austin, the following officers were elected: president, Dr. Thomas J. Bennett, Austin; secretary, Dr. Lewis B. Bibb, Austin, and censors, Drs. James H. White, Kile, and James W. McLaughlin and Robert M. Wickline, Austin.——Hunt County Medical Society has elected the following officers: president, Dr. Edwin P. Becton; vice-president, Dr. Thomas B. Spaulding; secretary-treasurer, Dr. John A. Bush, and censor, Dr. Milus L. Moody, all of Greenville.——At the annual meeting of the Bell County Medical Society, held in Temple, Dr. Ambrose B. Crain, Belton, was elected president; Dr. S. A. Watts, Pendleton, vice-president; Dr. Edward J. Burns, Temple, secretary-treasurer; Dr. Jacob M. Frazier, Belton, censor, and Dr. Milton P. McElhannon, Belton, alternate delegate to the state society.

GENERAL NEWS

Tri-State Physicians Meeting.—The thirteenth annual session of the Tri-State Medical Association of the Carolinas and Virginia will be held in Raleigh, February 22 and 23 under the presidency of Dr. Joseph A. White, Richmond, Va.

Tuberculosis Day.—April 30 has been set aside as Tuberculosis Day and will be observed in 200,000 churches in the country in a manner similar to that of Tuberculosis Sunday in 1910. The National Association for the Study and Prevention of Tuberculosis asks that meetings, at which the study of tuberculosis and its prevention can be discussed, be held on Sunday, April 30, or near that date, so that the whole matter can be discussed throughout the United States at as near the same time as possible.

The Golubinin and Sirotinin Festchrifts.—The issue of the *Medizinskoe Obozryenie*, just received (No. 20), is a special number of 163 pages in honor of the professor of materia medica at the university of Moscow, L. E. Golubinin, president of the Moscow Medical Society. The *Russkiy Vrach* of the same date is also a *Festnummer* in honor of V. Sirotinin, professor of internal diseases at St. Petersburg. Among the many articles, Tchernorutzki reports that he found the Mandelbaum reaction positive in 100 per cent. of over a hundred cases of typhoid fever, and regards it as a valuable simple means for rapid differentiation of typhoid. (The technic was described in THE JOURNAL, March 5, 1910, page 827.)

Alcohol Literature Given Libraries.—Mr. A. D. Ellis of East Syracuse, N. Y., a business man of some means, has recently sent to every medical library in the United States and Canada a copy of the book, "Alcohol, a Dangerous and Unnecessary Medicine," by Mrs. Martha M. Allen, superintendent of medical temperance for the National Woman's Christian Temperance Union. The book was reviewed in THE JOURNAL some months ago and recommended to the respectful consideration of physicians, and this fact led Mr. Ellis to think it would be a good thing to present the book to medical libraries. He was greatly gratified at receiving some very warm letters of thanks for the gift, and kindly commendations of the book. He is now considering sending a copy to all the nurses' training schools. The book is largely a compilation of the writings of successful physicians who use little or no alcoholic liquors in their practice.

Health Crusade.—Mrs. S. S. Crockett, chairman of the Health Department of the General Federation of Women's Clubs, in a New Year's message, asks that every club in the general federation and the forty-five state federations, during the first month of the new year, hold a war council of all departments or committees and discover what every section or part of every club throughout the country may contribute toward the nation-wide health campaign instructed by the last general federation at its meeting in Cincinnati. Mrs. Crockett also asks for four successive advances on health enemies all along the line through a series of short term campaigns as follows: February—"The Common Drinking Cup." March—"The Typhoid Fly." April—"Oral Hygiene," and May—"Social Hygiene." Special tuberculosis campaigning will also be continued. The campaign headquarters for two years are at 710 Belmont Avenue, Nashville, Tenn.

Joint Conference on Education and Legislation.—The Seventh Annual Conference on Medical Education and Legislation, called by the Council on Medical Education and the Council on Health and Public Instruction of the American Medical Association, will be held at the Congress Hotel, Chicago, March 1-3, 1911. Speakers of national reputation will be present and an interesting session is expected. The first day will be given to addresses and reports on medical education; the second to a discussion of medical practice acts and the third day will be taken up by a conference on medical legislation. A program will be sent on application. Since two other educational agencies, namely, the Association of American Medical Colleges and the National Confederation of State Medical Examining and Licensing Boards are to hold their annual sessions in Chicago during the same week, an unusually large attendance of those interested in medical education and medical legislation is expected.

Warning Against Easy-Money Swindlers.—Several correspondents have written from Iowa recently regarding the Medical and Surgical Exchange Bureau, 1315 Capitol Avenue, Des Moines, Iowa, stating that an individual, calling himself A. W. Orris, has called on them alleging to represent the above bureau, and has offered to take their old medical books and give new books in exchange. On going over the list, the balance is always in favor of the agent, who requests and obtains a deposit, and this is stated to be the last heard of the agent. On investigation, they found that no such corporation or individual lived at the address given in Des Moines or had had an office at that address. Orris is said to be a man of about 60, with a black mustache, about 5 feet 10 inches in height, weighing about 180 pounds. He is said to be rather nervous and hurried in his manner, but to have good knowledge of medical books, and to carry with him a number of medical book cat-

alogues.——Another man, alleged to be a swindler, is reported from the City of Mexico. He presents alleged letters of introduction and pretends that he is an Odd Fellow and an Elk. He calls himself F. August Harbers, is a large, fair man, of about 35 years of age. Our correspondent does not state in what way he and others were victimized—perhaps they loaned money to him. Swindlers of various sorts are operating all over the country, and will continue to do so as long as they find it possible to succeed without capture.

LONDON LETTER

(*From Our Regular Correspondent*)

LONDON, Jan. 28, 1911.

Great Fall in Infant Mortality

The returns for 1910 show the unprecedentedly low figure of 106 deaths, of infants under one year, per 1,000 births. The great improvement which has been made is shown by the fact that the figure in 1901 was 151. The previous lowest figures were 109 in 1909, and 118 in 1907. In London, the record is even more startling, the infant death-rate in 1910 being only 102, as compared with 148 in 1901; while in the part of England and Wales outside the 213 great towns the rate in 1910 was only 96. The importance of these figures may be gathered from the fact that had the infant death-rate in 1910 been as high as in 1904, 151,000 more deaths would have occurred. This result has been due to a number of factors. Cool summers always mean a low infant mortality, in consequence of a great diminution in summer diarrhea. But similarly cool summers have occurred in past years with no such low infant mortality. The principal cause is the great attention which has been paid to infant hygiene in the last few years. This dates from the Conferences on Infant Mortality, which were addressed by Mr. John Burns, the president of the local government board, in which he urged the sanitary authorities to "concentrate on the mother" and to secure for infants better conditions of housing and a more favorable environment. During these years, the Notification of Births Act (by which local health authorities can render compulsory the notification of births) has been adopted in the districts most needing its work. Following the notification is the health visitor who gives the mother any necessary advice. The subject of infant hygiene has become increasingly popular.

Prevention of Sleeping-Sickness

A conference, convened by the British government, is now being held daily at the foreign office, as a result of representations made of the danger of spreading sleeping-sickness by the construction of the Rhodesia-Katanga railway which runs beyond the Congo frontier. The delegates include M. Melot, representing the Belgium government, and Dr. Bagshawe of the Sleeping-Sickness Bureau. The conference recommends that in the case of new railway extensions the route of the lines should be inspected for the *Glossina palpalis*, that maps of the fly area should be prepared, that railways should cross the fly belt at the narrowest points and not follow them, that there should be no station, building, or stopping place in the area, and that laborers on the line should be recruited under such conditions as to avoid infection. At a meeting of the Royal Society reports were received from Col. Sir David Bruce, director of the society's commission for the investigation of sleeping-sickness at Uganda, describing the results of experiments to ascertain if the antelope and domestic fowl of Uuganda act as reservoirs for the trypanosome of sleeping-sickness.

The tsetse flies around the northern shores of the Lake Victoria Nyanza still retain their infectivity for sleeping-sickness in spite of the fact that the native population was removed from the lake shore three years ago. A series of experiments was therefore carried out to ascertain if the antelopes, which are common on the uninhabited shores of the lake are capable of acting as hosts of the parasite of sleeping-sickness. Eleven antelopes of the waterbuck, bushbuck and redbuck species were obtained from a district where tsetse flies and sleeping-sickness do not exist. Blood from these animals was first inoculated into monkeys to ascertain if they were naturally infected with trypanosomes. They proved to be healthy in this respect. Tsetse flies known to be infected with the trypanosome were then fed on these antelopes. After about eight days the blood of the antelopes was inoculated into susceptible animals with the results that the latter became infected with trypanosomes in every instance. In eight out of the eleven antelopes the trypanosome appeared in the blood for a few days only (seven to twelve days) after they had been bitten by infected flies. Flies that had been hatched out in the laboratory and had never fed before, were fed on the infected antelopes and subsequently on monkeys. After an interval of about thirty days (required for the development of trypanosomes within the fly) monkeys were infected by the flies in sixteen out of twenty-four experiments, but the animals remained in perfect health. No wild antelope inhabiting the lake shore has yet been found naturally infected. With regard to birds, there is evidence that tsetse flies feed on the blood of birds as well as mammals on the lake shores. But the conclusion from twenty-one experiments with domestic fowls was that these do not act as a reservoir for sleeping-sickness.

Physician vs. Pharmacist

The pharmacists have not been long in preparing a counter stroke to the report of the government commission on unqualified practice. As stated in a previous letter to THE JOURNAL, pharmacists were severely criticized for usurping the functions of physicians and prescribing for patients. The parliamentary committee of the Pharmaceutical Society has passed the following resolution which has been adopted by the general council of the society: "That having regard for the grave dangers attending the dispensing of medicine and the handling of poisons by unqualified persons, and to the fact that at the present time the precautionary measures imposed by statute on chemists and druggists do not apply in the surgeries and dispensaries of medical practitioners, the privy council be urged to authorize an investigation into the conditions under which the storage, compounding and dispensing of medicines, and their distribution, are carried on in various surgeries, dispensaries and similar establishments in Great Britain." This resolution refers to the fact that physicians are subject to no regulations whatever in the compounding and dispensing as are pharmacists. Thus the shops of the latter are periodically inspected and their drugs and preparations must be up to the standard of the Pharmacopeia. Pharmacists complain that the physician's training in pharmacy is confined to a three-months' course and when he starts practicing he is allowed to handle the deadliest poisons free from the supervision of inspectors. The ideal of the pharmacists is that all medicines should be dispensed by a registered pharmacist, or under his supervision, but in the meantime they will agitate for the inspection of physicians' dispensaries. The contention of the pharmacists that physicians are not competent for their own dispensing is not correct. A physician who dispenses confines himself to a limited number of drugs and preparations for which he has a preference. At one time physicians made their own pills; now they almost always obtain them ready made. Cases of poisoning from mistakes in dispensing are exceedingly rare and cannot be said to occur more frequently in physicians' dispensaries than in pharmacists' shops. However, some physicians are in favor of confining dispensing to pharmacists. They consider this more in keeping with the dignity of the profession and desirable on other grounds, such as giving the physician more time for his proper work. This is the practice in the higher ranks of the profession. Indeed a man with the rank of M.R.C.P. (Member of the College of Physicians of London, a consultant's qualification) is not allowed to dispense medicines. But this ideal is unattainable by the rank and file of the profession. The fees are too small to allow the pharmacist's profit to be paid out of them. Sometimes the fee for advice and medicine at the physician's office runs as low as $0.25, or even less, a sum lower than what may be charged by a pharmacist for a mixture.

Dentist Found Guilty of Manslaughter of a Patient Who Bled to Death After Extraction of Teeth

In a previous letter to the JOURNAL the case was reported of a girl, aged 19, a school teacher who on June 18 had some teeth extracted at Bantry, Ireland, by a traveling unqualified dentist. For some days before, she had had some bleeding from the gums and a purpuric eruption on the face, hands and other parts. The dentist injected cocain into the gums and extracted four front teeth from the upper jaw and two from the lower. The girl left the room bleeding profusely from the mouth and went to a neighboring house, where she fainted. The dentist was summoned and tried to stop the hemorrhage with perchlorid of iron, but failed. A physician was then called but in spite of all that he could do the bleeding continued and the girl died at the end of forty-eight hours. The dentist has now been indicted for manslaughter. The judge, in summing up, said that it was a very serious thing that a man who was not qualified should practice dentistry, though the law permitted it. If the prisoner had been guilty of a mere error of judgment, although he was unqualified, the

jury should acquit him; but if they thought that under the circumstances he should have sent for a doctor and that the marks on the face should have shown him, if he knew anything, that this girl was suffering from purpura, they would be justified in coming to the conclusion that there was criminal misconduct which arose from gross ignorance. The jury found the prisoner guilty of manslaughter, but recommended him to mercy on the grounds of his ignorance and considered that the dental firm who employed him was culpable. The judge in passing sentence said that, having regard to all the circumstances, he did not think he should send a particular individual to jail who was the mere instrument of a company; he would allow him out on a personal recognizance of $500 to come up for judgment when called on.

Carbon Monoxid Poisoning from a Benzine Explosive Engine

The explosive engine which has recently come so much into vogue in the motor-car, motor boat, and aeroplane, has proved a new source of carbon monoxid poisoning, as the following case, which is reported from New Zealand, shows: Five men went out fishing on a motor launch propelled by a six-horse-power benzine engine. One was a strong young fellow aged 20, in good health, who crawled forward past the engine and lay down in the cabin about 8 p. m. Soon afterward he was heard to groan, but lay quiet and soon thereafter was thought to be asleep. He could not be wakened at about 11:30 when the boat reached the shore. About midnight he was seen by a physician, Dr. Barclay. His face looked of a natural color, so that at the first glance the doctor thought he was alive. The body was still warm but there was no sign of heart's action or respiration. The prolonged use of artificial respiration and hypodermic injection of strychnin were without effect. Next day a necropsy was made. The lips were pinkish red. The blood was of the color of vermilion. There were no signs of organic disease. A specimen of the blood was found to contain carbon monoxid to the extent of 50 per cent. of saturation. As there was no fire on the boat the only possible source of poisoning was the benzine engine. Further inquiry showed that men attending these engines in the cabins of launches often have toxic symptoms—headache and dizziness. As precautions against such fatalities Dr. Barclay suggests the following rules for motor boats: 1. Adjust the supply of benzine and air as accurately as possible to secure complete combustion. 2. See that cylinder fittings are not leaking unduly. 3. Ensure as much ventilation as possible in the engine room.

New Regulations for Health Officers

The health officer, who was originally only a physician who combined public-health work with his ordinary practice, has become more and more differentiated into a special class. The government has issued new regulations for health officers, which further increase this change. In a memorandum just issued, the Local Government Board states that while excellent work has been done by many health officers who are also in private practice, experience has shown that it is desirable, wherever practicable, that the health officers should not be so engaged. The reason is that often they have to offend their clients in carrying out their public duties. In all the large towns and districts the health officer is now a specialist who devotes his entire time to public health, but in the smaller districts the work is still combined with private practice. The board now advises these districts to obtain the services of a man who is not engaged in private practice by combining with neighboring districts or by combination of other public appointments with that of public health. The public offices which the health officer may be allowed to hold are school medical officer, police surgeon, public vaccinator, district medical officer, medical officer of the workhouse, superintendent of the isolation hospital and factory surgeon. The memorandum proceeds to urge that the salary offered to the health officer who devotes his whole time to public health work should be sufficient to attract men with good qualifications.

Complete Traumatic Avulsion of the Heart

The following remarkable case has been observed at St. Mary's Hospital: A boy, aged 6 years, was taken to the hospital dead from severe injuries inflicted by a motor omnibus. Though the external injuries were slight, consisting of bruises and abrasions and slight bleeding from the nose, the internal injuries were severe. They included depressed fracture of the symphysis pubis and left innominate bone and lacerated wounds of the liver, spleen and small intestine. All the ribs on the left side except the eleventh and twelfth were fractured mostly in two places, before and behind; the right second rib was fractured. The right bronchus was severed and the pedicle of the lung nearly divided, but the lungs themselves were uninjured. The right pleural cavity contained blood and in its lower part the heart lay completely detached. The pericardium had been ruptured vertically on the right side, and through the aperture the heart had evidently escaped. There was a fracture of the spine at the level of the third dorsal vertebra. The upper end of the descending aorta and the esophagus were ruptured. In spite of the terrible internal injuries there were no marks of violence over the thorax.

Model Rules for Nurses

Sometimes nurses give annoyance to medical men by usurping the functions of the physician, in criticizing treatment and in other ways. The following model rules for inclusion in the rules of nursing associations have been drawn up by the British Medical Association: 1. The nurse shall in every case carry out the directions of the physician in attendance. 2. When requested in an emergency she may visit and render first aid without awaiting the instructions of the physician. 3. If in her opinion the attendance of a physician is necessary, she must insist that one be sent for, and if for any reason his services are not immediately available, she must, if the case be still urgent, remain with the patient and do her best until the physician arrives or the emergency is over. Should the advice to call a doctor be not acted on, the nurse must at once leave and report the case to her secretary, and must not attend again except in case of fresh emergency. 4. Should any further attendance be requested by the patient when the emergency is over, the nurse must explain that the physician will decide whether this is necessary. 5. No attendance after a first visit shall be given by a nurse unless she has informed a physician and received his instructions. 6. Apart from her duties as a certified midwife a nurse must on no account prescribe or administer on her own responsibility such drugs as should be prescribed only by a physician. 7. No midwife in the employment of a nursing association shall accept an engagement without first asking the patient to state, and herself registering the name, of the physician to be called should any emergency arise. 8. A nurse shall in no case attempt to influence a patient in the choice of a physician or of an institution.

Surgeon Sued and Acquitted for Purposely Leaving a Swab in the Intestine

A well-known surgeon, Mr. Charles Ryall, has been sued for leaving a swab in the intestine and the case has caused considerable interest in the profession. Mr. Ryall operated on a woman for fibroid tumor on Nov. 5, 1908; on opening the abdomen he found extensive adhesions and the operation proved severe and dangerous. In separating the adhesions, a tear 4 inches long occurred in the intestine. The adhesions prevented the bowel being brought out of the abdomen and it was necesssary to take instant steps to stop possible leakage. He did the quickest thing—put a swab into the bowel, sutured the intestine and completed the operation without removing the swab, as he considered that this would have been dangerous. After the operation, he told the head nurse that there was a swab in the bowel and asked her to watch for its passage by rectum and she reported later that this had taken place. A few days after the operation, the patient suffered from pain which her physician attributed to flatulence. She recovered from the operation but the pain continued and in March, 1909, a "lump" appeared in her right side. On October 15, she passed a large swab which was hard and stiff.

For the plaintiff, Mr. Russell Howard, surgeon to the London Hospital, gave evidence. He stated that he had performed many abdominal operations but had never left a swab in the body which could not be removed within twenty-four hours. He had never heard of a swab being left in the body in the manner described. In cross examination, he admitted that if the tear in the intestine was 4 inches long it was proper to pack the intestine with a swab, but it should have been placed with a tape outside to call attention to the fact that it was there and enable it to be pulled out. For the defendant, Sir Alfred Fripp, Surgeon to Guy's Hospital, stated that it was a common practice to leave things in the bowel and that a Murphy button had been retained for years. Mr. Miles, surgeon to the Cancer Hospital, and Mr. J. E. Lane, senior surgeon to St. Mary's Hospital, gave similar evidence. The latter said that the operation was extraordinarily difficult and that the plaintiff had made a marvelous recovery. He considered that in using the swab and suturing over it Mr. Ryall showed great resource. The nurse stated that she was directed by Mr.

Ryall to watch for the passage of the swab. After the operation she gave the patient an enema which was followed by a satisfactory result. As the bowels were cleared before the operation and as no solid food had been given after it she thought the swab had come away and reported accordingly. In charging the jury, the judge said that up to the moment of bringing the action—and this was an important point in the plaintiff's case—the plaintiff said that no one could be found to say that any surgeon would adopt such a method as the defendant appeared to have done. It was quite true that, with one exception, no surgeon except the defendant had ever used a swab in the manner described, but the eminent surgeons who were called as witnesses were all of the opinion that this operation was very difficult and that the patient was fortunate to be alive. Mr. Lane had said that the defendant had shown great resource in using the swab as he did. The instant stopping of the torn bowel was vital. The jury returned a verdict for the defendant.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Jan. 20, 1911.

How the Fact of Death is Established in France

The Académie des sciences of Paris having recently awarded the Dusgate prize to Dr. S. Icard of Marseilles, for his work entitled "The Verification of Death in Hospitals in France and Abroad and the Necessity of Early Necropsies," public opinion has been much interested to learn that the verification of deaths in hospitals is not always surrounded by sufficient guarantee. As usual in such cases, the political journals have greatly exaggerated the facts and have played on the feeling always aroused by the question of burial of the living. It is not in hospitals alone, however, that the verification of death leaves much to be desired. There is a regrettable lacuna in the French law on this point. According to the *Code civil*, the death should be reported to a government official by two persons, if possible by the two nearest relatives of the deceased and verified by the official. In other terms, burial may take place without any medical examination, except in cases in which the cause of death is suspected, in which the official should be assisted by a physician. In practice, no doubt, medical verification is seldom omitted. Thus in Paris, the fact of death has been established, for a long time, by physicians charged with this function and designated under the name of *médecins de l'état civil*. In 1866, a circular of the minister of the interior prescribed that the mayors of all the communes should delegate one or several physicians for this duty; but this circular was observed only in some large cities. In the country and in the small towns there is no organized means for verifying deaths. Accordingly, the interest aroused by the signs of real death to which Dr. Icard has drawn attention may be understood. One of these signs based on the hydrogen sulphid reaction may easily be observed, even by a non-medical person. Taking advantage of the fact that organic decomposition appears rapidly in the lungs, Dr. Icard takes a small strip of paper on which some characters have been traced invisibly with a colorless neutral solution of acetate of lead in distilled water. The strip of paper is placed in one of the nostrils of the body under observation. If at the end of twenty-four hours, the characters appear traced in black, death is certain, since pulmonary putrefaction has begun, disengaging the hydrogen sulphid which, acting on the neutral acetate, forms a black lead sulphid.

By the side of this non-scientific sign, which is manifested only at the end of twenty-four hours, Dr. Icard places a scientific sign, which gives immediate results. This is the fluorescin test, which consists in injecting into the veins or into the muscular masses an aqueous solution of fluorescin, so as to show the persistence or the cessation of the circulation of the blood. When an hour, or at most, two hours, after the injection, no characteristic coloration from the absorption of fluorescin is observed, such as intense yellowness of the skin and the mucosa, or green coloring of the eyes, it may be affirmed without doubt that death has taken place.

Illegal Practice of Medicine

In a previous letter (THE JOURNAL, Aug. 7, 1909, p. 468) I mentioned the case of the zouave Jacob, who, prosecuted for illegal practice of medicine, had been acquitted, the lower court sustaining the defendant's plea that he was merely a faithful intermediary between the spirits and the patients. This was, said the court, curing by suggestion but not practicing medicine. The court of appeal has reversed the first decision and condemned Jacob to pay a fine of $20 (100 francs) and $40 damages to the Syndicat des médecins de la Seine, which was civil party. The grounds of the decision were as follows: According to the terms of the law of Nov. 30, 1892, illegal practice of medicine consists in the habitual participation, by a person without the diploma of doctor of medicine, in the treatment of diseases (urgent cases excepted), the word "treatment" including every act or counsel tending to the cure or amelioration of a state of malaise or of disease, and not merely based on knowledge of the disease treated.

Professional Responsibility and the Organization of Physicians of the Seine

In view of the recent condemnation of Dr. Bazy to pay $1,000 damages (THE JOURNAL, Jan. 14, 1911, p. 130), the administrative council of the Syndicat des médecins de la Seine, representing 1,700 physicians of Paris and the suburbs, passed a resolution that whereas, surgeons under the most critical circumstances need to decide rapidly and sometimes boldly, the indecision and timidity of a surgeon being always injurious to the patient, the surgeon ought to be held responsible only for actual gross fault, clearly established.

Reform of the Internship of the Hospitals of Paris

The committee of the Association des Internes et anciens Internes des Hôpitaux de Paris, has just adopted a resolution that the interns of the hospital of a provincial city which is the site of a Faculté de médecine, when they desire to enter the *concours* of the Paris hospitals, should not be obliged first to pass through the externship, as has been the practice up to the present. The adoption of this resolution would relieve the Faculté de Paris, for many provincial students, instead of coming first to Paris, would thus be able to take their first year of study in the province, which would be better for them, the material for anatomy being insufficient in Paris for the number of pupils.

Another resolution passed by this same committee is in line with a resolution passed by the Congrès de l'Internat français (THE JOURNAL, June 25, 1910, p. 2131), which is to the effect that interns on duty should at their request be allowed to take an entire consecutive year for scientific travel abroad.

Personal

M. Mirman, director of hygiene and public charities, department of the interior, was seriously wounded in the thigh by an insane man, who fired two revolver shots in the chamber of deputies, intending to assassinate M. Briand, the prime minister.

Advertising by Midwives

In the course of a study on abortion from the medicosocial point of view, Dr. Jacques Bertillon, *chef des travaux* of the municipal statistics of the city of Paris, has shown that fifty midwives advertise continually in the Paris papers. By collecting the advertisements from these papers, he has been able to make an exact estimate of the sum so expended annually by each of these midwives. One spends $2,665 (13,325 francs); another spends $1,611 (8,055 francs); nearly twenty spend on an average from $400 to $1,000 and the thirty others spend on an average between $200 and $400. These sums indicate that it is impossible that these midwives should practice their profession ethically and legally. Dr. Bertillon, therefore, believes that it is necessary to have the profession of midwifery put under inspection and to make a report of every miscarriage obligatory.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Jan. 12, 1911.

Poisoning by Butterine

As I reported to you in a former letter, a number of cases of poisoning were occasioned in Altona, Hamburg, Berlin and other cities by the use of a brand of oleomargarine manufactured by an Altona firm. Investigations undertaken in the institute for infectious diseases in Berlin have shown that dogs fed with the butterine sickened half an hour after eating, with great restlessness and vomiting. Several of the animals nearly died and one did so, twenty hours after the feeding. The necropsy of this animal showed marked reddening and swelling of the mucous membrane of the stomach and upper part of the duodenum. Investigations made under the direction of Professor Dunbar in the municipal institute at Hamburg, gave the same results, and he was able to reach a decisive

opinion as to the nature of the poison. As is well known, margarine was originally prepared by adding to minced beef tallow the stomach of the sheep or the pig in order to digest the tissue particles adhering to the tallow. The tallow prepared in this way was separated by pressure from the solid stearin-containing constituents, and the liquid oleomargarine was mixed finally with milk and macerated cow's udder and churned to butter. As a result of the favorable reception of oleomargarine which was first produced in Germany in 1876, the production has increased with us to the extent that the annual output is estimated at 200,000,000 pounds, having a value of about $25,000,000 (100,000,000 marks). In consequence of the competition between various manufacturers, there has been an attempt gradually to cheapen the method of manufacture and this has been accomplished, mainly by the substitution of vegetable oils for the animal fat. Among the latter, cotton-seed oil, poppy oil, peanut oil, corn oil, sunflower oil and cocoanut oil have been used. Many factories have also used other oils, the origin of which was not given and the preparation of which was not always unobjectionable. In fact it has been shown that the cases of poisoning referred to must be attributed to the use of such an oil. Professor Dunbar found that the foreign oil was Maratti fat which is in consistence, color and smell identical with oil of cardamom. It was obtained from the seeds of the hydnocarpus, a large tree common in India. The Maratti fat is sold in England as Moratti oil and is derived from a species of hydnocarpus closely allied to the *Hydnocarpus kurzii* from which chaulmoogra oil is derived. Hydnocarpus seed oil has an appearance and composition very similar to that of chaulmoogra. One of the varieties from which the oil is derived is *Hydnocarpus anthelmintica*, and it is used as a vermifuge. Moratti oil is known commercially in Germany under the name *Kardamonöl* (not the same as oil of cardamom). The poisonous butterine consisted of more than 50 per cent. Maratti fat. Professor Dunbar demands that margarine factories shall be placed under official inspection, for the present cases of poisoning show that severe injury may result from its manufacture and that there is no assurance that the factories at any time may not use in the production of oleomargarine some oil even more injurious than the Maratti.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Jan. 19, 1911.

The Jubilee Hospital

The municipality of Vienna decided to erect a special large hospital to commemorate the jubilee of the Emperor of Austria two years ago, and a fund of over $2,000,000 was granted for the purpose. The hospital is now finished and will be opened shortly. A committee consisting of medical men, experts in hospital building and other persons interested in the institution, was shown through the hospital a few days ago. The four leading ideas which the municipality wanted to bring into existence were: The hospital must not contain a clinic (for teaching), or any ward for infectious diseases; without undue centralization, the pavilion system should be adopted as little as possible, while large garden tracts were especially desirable; the outfit and the "running" of the hospital must be entirely up to date in scientific and technical respects; it should be also specially fitted for postgraduate work of the municipal physicians. The area at disposal was 152,000 square meters, or 2,710,000 square feet, of which only the space of 162,000 square feet is covered by buildings. The rest has been turned into parks, streets and pathways. For instance, one of the courtyards (or rather park yards) measures some 270,000 square feet. The hospital itself contains eight wards: the medical ward with 236 beds; a tuberculosis ward with 248 beds; one for surgical cases, with 118 beds; a gynecologic ward, with 48 beds; a large urologic ward, with 126 beds, which will be the largest ward of its kind on the Continent; a skin department, with 136 beds; 50 beds for eye cases and 18 for nose-and-throat cases. These 980 beds are accommodated in three huge buildings. There is a natural difference of ground level of 162 feet in this area, so that several institutions could be located, so to say, underground; thus, for instance, the *x*-ray department is so situated and the department of sterilization of bed-clothes and utensils. One of the most interesting features is the central bathing establishment. It contains all instruments necessary for hydrotherapeutic, electrotherapeutic, physiotherapeutic, phototherapeutic and mechanotherapeutic procedures, including a high-frequency current outfit. The tuberculosis ward faces south and is filled with open-air bedrooms and balconies. One wing of the central pavilion serves as home for the nurses (sisters). There will be altogether 110 sisters, who will have twenty-eight rooms for themselves. The hospital contains the following rooms: thirty-six ward-rooms with double daylight illumination, containing from eighteen to twenty-six beds; six rooms for patients, with from six to twelve beds with single daylight illumination (only windows); fifty-four rooms for patients, with one or two beds; thirteen out-patient halls; twelve rooms for minor surgery and out-patient treatment; eighteen laboratories; seventeen bathrooms, besides the central bath; twenty-two kitchens and as many washing rooms; sixteen rooms for the medical staff, and besides, the necessary rooms for the chemists, the post-mortem department, the managing clerks, the receiving office, etc. Everywhere special care is taken to make the patients feel at home; therefore, all clinical experiments will be excluded; this has been one of the objections to the plan on the part of medical men. Apart from the large park where patients will be encouraged to spend as much of their time as possible, the supply of air per patient, filtered and warmed fresh, has been calculated with 40 cubic meters, or 1,200 cubic feet in the rooms, and the diet will be controlled by a committee of the local magistrates, to insure its good quality and taste.

Congress of Stomatologists in Graz Condemns Proposed Anti-Medical Legislation

The Austrian stomatologists are at present engaged in an earnest fight against certain attempts to permit medical practice by non-medical men. The government is pressed by a certain group of politicians to permit the technical dentists to practice the whole of stomatology without university examination. Protests by all medical corporations have been organized (THE JOURNAL, Nov. 26, 1910, p. 1906) and a lively campaign is going on just now. The Austrian stomatologists, at a recent meeting in Graz, demanded the erection of special dental colleges and the establishment of dental clinics in schools. The congress was of the opinion that the handing over of this important branch of surgical and prophylactic medicine to non-medical men, as threatened by the "dentists' act," meant "a permanent danger to the national welfare and spelled diminished resistance to outward dangers."

Miscellany

ADVERTISING SALVARSAN TO THE PUBLIC

The Truth About 606, the New Treatment for Syphilis, Discovered by Ehrlich and Hata

Ever since the discovery of salvarsan, popularly known as "606," THE JOURNAL has advised caution in the use of this powerful drug. The wide-spread prevalence of syphilis, and the speedy and wonderful results which this new remedy was said to have produced, at once aroused wide popular interest. Inquiries were made everywhere of physicians who were no less interested and sought reliable information concerning it. Its discoverer was fairly deluged with letters and telegrams asking for information and even demanding supplies of the drug. The medical journals at home and abroad, as well as the daily press, contained glowing accounts of its marvelous effects, some of the stories in the newspapers being of the most sensational sort. The discoverer of the drug did not allow it to be placed on the market for over a year after its discovery, but supplied it to a few selected physicians, so that it might be used under favorable conditions. It was administered to a large number of patients who consented to its use, in order that the exact indications and results might be determined. Its use in Europe was limited to a few large hospitals. A supply was sent to the Rockefeller Institute in this country and was given out to a selected list of men, in order that its value might be carefully tested. Dr. Ehrlich insisted that it must be used in at least ten thousand cases and the results reported to him before he would allow the drug to be sold. He pointed out that it was a most powerful drug and, if used in any but suitable cases, might do great harm.

In the light of our present knowledge, the drug seems to having a striking effect, destroying the living organism which causes syphilis, and healing—temporarily at least—superficial lesions on the skin and mucous membrane of the

mouth and throat in a few days. Such results caused the physicians who were working with the drug and those who saw the cases to become over-enthusiastic in regard to it. Exaggerated statements began to appear in the medical journals; the newspapers, seizing on these reports, and not understanding either the limitations or the dangers of the remedy, at once began making the most sensational announcements concerning it, asserting that one dose of this wonderful discovery would cure a disease which has been one of the scourges of humanity for centuries. Public interest in this new remedy has only been equaled by that aroused by Koch's tuberculin twenty-five years ago.

But it is already evident that the first claims made for salvarsan must be modified. It is also evident that when used carelessly or by incompetent persons it is not only disappointing in its results, but actually dangerous.

In an editorial last year, THE JOURNAL said: "It is not only possible, but probable, that the enthusiastic claims which some of the users of this new remedy are making for it will, in the light of future developments, be greatly modified." This prediction has already been verified. It has been found, for instance, that many relapses occur after apparent cures and that ill effects have been produced by it in cases which were not properly selected or in which the drug was not used with proper precaution. It must not be forgotten that salvarsan is a preparation of arsenic and must be used with great caution. Like most arsenic preparations its use may be followed by serious results; for instance, it may have a disastrous effect on the eyes. It has also been found that its therapeutic value is more limited than was at first supposed. It has no beneficial effect in locomotor ataxia, or in general paralysis of the insane, or softening of the brain, as it is popularly called, although the most enthusiastic claims for the cure of these troubles were at first made.

But the most deplorable result of the publicity regarding this remedy is its exploitation by quacks. As might be expected, a remedy which excited such public interest, and which promised such marvelous results at once stimulated the cupidity of the quack and the charlatan. The *Bulletin of Pharmacy* says, "The discovery of Ehrlich's new remedy for syphilis had hardly been announced when the medical charlatans of New York City began advertising treatment with '606.' Of all the brazen quackery, this was the worst." Salvarsan was not then on the market and could not be obtained generally, even by physicians, until about the first of the present year. But this was a mere trifle to the quacks, who prey on the misfortunes of credulous humanity. To them it afforded a golden opportunity, and they immediately embraced it. Newspapers have contained such advertisements: "606, Prof. Dr. P. Ehrlich's Cure for Blood Poison. Now on Sale. All Symptoms Removed in 2 Days. One Dose Cures. Remember, All Symptoms Disappear in two Days. One dose cures permanently. Salvarsan can be taken in the privacy of the home. For thirty dollars the '606 Laboratories' will ship in plain unmarked package the necessary dose with simple directions." Such false and misleading statements printed with pseudo-scientific matter bringing in the names of Ehrlich, Pasteur and Flexner and others, have induced dupes to send $30 for a dose of salvarsan (or what is claimed to be salvarsan) the regular price of which is $3.50, in the hope of curing themselves, when, in reality, the drug could not possibly be self-administered.

The truth about this remedy should be spread broadcast by physicians, by medical journals and by the press so that the public may not be imposed on by fakers, quacks and charlatans. The public should know that this preparation contains a very large percentage of arsenic, a most potent, poisonous and dangerous drug. It should also be known that it has not yet been proved that salvarsan permanently cures syphilis or "blood poison" in one dose, or even in any number of doses; that it cannot be used by patients themselves; that it must be given either hypodermically or intravenously by a competent physician, and that the patient should remain in a hospital for a number of days after its administration; that the drug is difficult to prepare and that it requires expert knowledge and experience both to prepare and to give it; that if not properly given it may cause intense pain lasting for hours or days and may cause destruction and sloughing of tissues at the site of injection; and that it may cause blindness, and that in some cases it may injure the heart or the kidneys and may cause death. Those physicians who have the largest experience in giving the drug are finding that the results so sensationally heralded at first are not permanent and that the dangers are much greater than were at first supposed. The statement made in the newspaper advertisements that "if you are threatened with blindness, paresis (complete loss of memory), rotting bones, decaying brain, ALL caused by contagious blood poison, '606' WILL SAVE YOU," is not true. The indiscriminate use of this drug by the public or by those not properly trained to administer it can only result in disappointment as well as loss of money and danger of serious injury or death.

Classification and Nomenclature of Cancers.—A committee composed of Drs. Delbet, Menetrier and Herrenschmidt reported at the recent international cancer conference on a uniform nomenclature for cancer. They advocate that all malignant tumors should be divided into three classes: (1) epithelial cancers; (2) connective tissue-vascular cancers (the generic term sarcoma applies to this class), and (3) cancers formed of multiple tissues. The first group, epithelial cancers, is subdivided into (*a*) epitheliomas of the skin and mucous membranes with stratified pavement epithelium; (*b*) those of the glands connected with stratified pavement surfaces and linings, including the sweat, sebaceous, mammary and salivary glands and alveoli, the thymus, thyroid and hypophysis; (*c*) those of cylindrical epithelium as in the nasal fossæ, the sinuses of the face, the larynx, trachea, bronchi and lungs, stomach and intestines, uterus and tubes and fetal chorion; (*d*) epitheliomas of the glands connected with the digestive tract, the liver, the bile ducts and pancreas; (*e*) epitheliomas of the visceral glands and epithelial parenchymas, as in the suprarenals, kidneys, pelvis, ureters, bladder, urethra, prostate, testicles and ovaries; (*f*) epitheliomas of nerve tissue neuroglia and neuroganglia, and of the organs of sense, the ear and eye. The second great class, the connective tissue-vascular variety or sarcoma, includes (*a*) sarcomas of ordinary connective tissue; they may be either spindle-celled, round or polymorphous celled, myxomatous or lipomatous; (*b*) sarcoma of tissues originating in connective tissue, specialized in bone or cartilage; (*c*) sarcoma of blood or lymph vessel tissue or of the spleen pulpa. This category includes also affections intermediate between simple hyperplasia and cancer, the chloromas and multiple myelomas; (*d*) sarcoma of endothelial and perithelial tissues, including cancer of the endothelial lining of the great serous membranes, and endothelial sarcoma of the joints, of the blood-producing system, meninges and vessels; (*e*) melanic sarcoma, and (*f*) sarcoma of muscle tissue. The third great group, cancers with multiple tissues, includes (*a*) those with a double combined malignant evolution, and (*b*) cancerous evolution of teratomas and embryomas. The term "carcinoma" should be dropped, the committee declares. It is merely the Greek word for "cancer," and cancer, carcinoma and *Krebs* are merely different terms for "the crab." According to the nomenclature proposed the malignant growth should always be designated as either an epithelioma or a sarcoma, accompanied by the name of the organ or tissue from which it is derived, and when precision is desired, by the structure of the growth and whether it is typical, atypical or metatypical, as for example, "an osteoid osteoblastic sarcoma of the jaw," or "a metatypical and infiltrating cylindrical epithelioma of the fundus of the uterus."

Preparation for and Care After Gynecologic Operations.—Dr. E. Holzbach, assistant at the Tübingen university clinic for women's diseases, in the *Sammlung klinischer Vorträge*. No. 575, reviews the outcome of gynecologic operations since the introduction of spinal anesthesia, the predominant use of the abdominal route, the transverse incision, abstention from tamponing and drainage, and allowing the patients to get up earlier. He warns that some of the vital organs may not

XUM

be quite up to the task imposed on them by the anesthetic and the operation, so that when all seems to be progressing ideally, some one organ is liable to break down, and the patient succumb, when more careful preparation for the operation would have averted the fatality. Sudden diabetic coma, unexpected heart failure, cerebral hemorrhage from an overlooked contracted kidney, cystopyelitis or an irreparable psychosis might thus have been warded off if precautions against the special danger in each individual case had been taken or the psychic balance of the patient had been correctly estimated. He makes it a principle to inaugurate a systematic course of heart tonics before attempting any operation in case of a long existing myoma, as these growths and cancer are always accompanied by impairment of the heart and blood. In case of much hemorrhage, however, he refrains from heart tonics and saline infusion as liable to increase the tendency to hemorrhage and to dilute and possibly lake the blood. Even a small amount of salt solution may have this last effect. A little morphin, he declares, is the best means of combating the air hunger of anemia and conserving the heart energy. He remarks that all anesthetics have a more or less injurious action on the kidneys and even after spinal anesthesia the amount of albumin and formed elements in the urine notably increases; in pregnancy nephritis, spinal anesthesia is particularly dangerous on this account. If pathologic conditions in the kidneys are suspected they should be treated, the physician meanwhile striving to learn whether or not this complication contraindicates operation.

Every form of diabetes contraindicates all except urgent operations; coma is liable to develop in diabetics after inhalation or even local anesthesia, and Füth has reported a case of death after myomectomy under spinal anesthesia. Holzbach reports another case in which death followed in coma 48 hours after spinal anesthesia, preceded by the scopolamin "twilight sleep" from which the patient never roused. Purging enemas, etc., should be restricted to the minimum in diabetics before operations, while the food should be extra nourishing. With the transverse incision the intestines do not interfere with the field of operation, no matter how engorged they may be, while the bowels move afterward just as well whether the patient was purged beforehand or not. In fourteen recent major operations no attempt was made to keep the patients on a special diet or to empty the bowels before the operation and no meteorism followed while the bowels moved after the operation unusually early.

Subnormal Children and the Public School.—Henry H. Goddard (*Training School*, September, 1910) discusses what the public schools can do for subnormal children. He defines a subnormal child as one who is unable to do school work at the usual rate or who is behind his grade. The temporarily subnormal are those whose backwardness is due to sickness, physical impairment or unfavorable environment, who when the cause is removed will progress at a normal rate. The development of permanently subnormal children, if not at once totally arrested, is at least permanently retarded so that they become increasingly below the normal child of corresponding age, finally becoming completely arrested. These are the feeble-minded. They may be divided into (1) those whose development is totally arrested before the age of 3 (idiots); (2) those whose development is permanently arrested between the ages of 3 and 7 (imbeciles); (3) those whose development is arrested between the ages of 7 and 12. These it is proposed to call "morons," from the Greek word for fool—one who is deficient in judgment or sense. The morons and the imbeciles are the ones with whose development the schools are concerned. The school should give special attention to every child a year or more behind grade. Generally a sufficient physical reason can be found for his backwardness. If the reason is defective sight or hearing, the child should be sent to a specialist. If the reason lies in previous sickness or change in attendance from one city system to another then he may not need special care. If no condition of environment or of the physical organism is at fault, the child is either a moron or an imbecile, will always be behind and his development will finally stop completely some time before he is 12 years old. If his development becomes arrested at 6 he is an imbecile; if between 7 and 12 he becomes a high-grade feeble-minded child who can be trained to do a great many things, but who can never be made competent to take care of himself without direction. An examination in groups of these high-grade children, selected from 10,000 feeble-minded, shows that they are more variable in their growth and that they cease growing from two to three years earlier than the normal children. The lower grades are much farther below the normal in this respect. Such children must be taken out of the regular grades and given a special instructor who has been trained to understand them and to deal with them according to their natures. Mentally defective children constitute from 1 to 2 per cent. of the children in every school.

Value of Tuberculosis Classes to the Community.—In discussing this question, R. C. Cabot (*Journal Outdoor Life*, October, 1910) says: "A tuberculosis class is a weapon in the war against consumption. It is on the whole the most important weapon that we have, for in nine-tenths of the cases it is the only weapon available. Not more than one-tenth of those who suffer from tuberculosis can afford a change of climate or can be cared for in a sanatorium. The remaining nine-tenths must die unless they can be cured at home. This home treatment, with the hope of a home cure for tuberculosis, is the goal for which the tuberculosis class aims. The essentials of a tuberculosis class are: (a) a physician who knows tuberculosis thoroughly and is willing to give his time for a few hours a week to the examination of suspected cases and the general supervision of their treatment; (b) a nurse or trained visitor, who will carry out in the homes of the patients the details of the physician's instructions; (c) for the support and guidance of the undertaking, an antituberculosis association, whose members succeed by hook or crook in collecting between $750 and $1,000 a year. . . . One of the valuable functions of a tuberculosis class is to spread abroad the knowledge that not all tuberculosis, but only neglected tuberculosis, is dangerous—that not every patient, but only those who do not destroy their sputa and who neglect to cover the mouth while coughing, are a danger to others. The mere presence or contiguity of a consumptive is not dangerous. The presence of a tuberculosis class in a town, through its effect on public opinion, will tend to compel doctors and boards of health to obey the law. Rich and poor are alike in danger as long as there is tuberculosis not properly cared for in the community. In streets, public buildings, electric and steam cars there is always danger of contracting the disease as long as a single consumptive is allowed to remain ignorant of the dangers he scatters around him. To build a fence between the sound citizens and those infected, we need not so much isolation hospitals as we need home care and home teaching for every sufferer. When the patient refuses to protect himself and the rest of the community by adequate care of his sputa, the board of health should execute its authority, as it does in other contagious diseases."

Some Medical Aspects of Aviation.—Dr. E. Reymond of Paris is an experienced aviator besides practicing medicine and serving in the senate. He recently delivered a lecture on aviation at the Société de l'internat which is published in its bulletin (1910, vii, 223). He analyzes the flight of birds, remarking that he never had understood it until after he had tried to fly himself, and then describes his sensations as the monoplane rises with him and, being unable to see over the edge as it rises, he does not know whether he is going up or not. The injuries from a fall are about the same as from a fall from a high roof and the possibility of fracture of the spine or base of the skull calls for lumbar puncture. On the whole he has found that the accidents are much less serious than anticipated. In a recent collision between two aeroplanes at a height of about fifty feet, one aviator was extensively scratched and bruised but the lesions were all superficial. The other aviator was unconscious, but not even a bruise was found on him when he was taken from the machine, and two days later he was aviating again. Reymond remarks in conclusion that the sight of the aviator

as he emerges from his machine, greasy with oil and with his eyes blood-shot, does not commend aviation as an attractive sport, but he thinks that it is something more and better than a sport, and he urges the French to complete the conquest of the air, in which they were pioneers. He does not refer to the effects of high altitudes, his experience being limited in this respect.

CLIPPINGS FROM LAY EXCHANGES

A NEW SYNONYM

"The patient L—— Z——, . . . is suffering from zygoma, or a broken bone in the side of his face."—Philadelphia *Telegraph*, Jan. 14, 1910.

BAFFLES WISE MEN FROM THE EAST

Miss A—— L—— B——, for fifteen years teacher of astronomy and mathematics . . . died . . . from a malady of the brain new to medical science. The ailment was diagnosed as brain tumor. . . . During the operation the surgeons met baffling conditions. . . . The disease was found to be similar to crystallization of the brain, but after carefully studying the symptoms and searching medical encyclopedias for opinions, . . . the surgeons agreed that the case was the first on record. Specialists came from the East and pronounced the disease an unknown one."—St. Louis *Republic*, Jan. 12, 1910.

AN APPROPRIATE SCAREHEAD

"HIS BACKBONE REMOVED: F—— L—— W—— of . . . has been pronounced by his physicians to have a very fair chance of recovering from a very unusual operation by which local physicians removed a portion of his backbone."—Newport (Ark.) *Independent*, May 24, 1910.

WHY DELAY?

"Drs. D—— . . . operated on the little fellow . . . Funeral arrangements have not been made."—Corunna (Mich.) *Journal*, March 17, 1910.

PRESERVE US FROM OUR LOVING FRIENDS

"C—— B——, is noted about the state as an exceedingly clever antiseptic surgeon. His presence was in constant demand last year at dangerous operations. This peculiar genius of his procured him an excellent position in one of New York City's large hospitals."—*Franklin County Reporter*, Hampton, Iowa, Jan. 12, 1910.

DIE SCHOENSTE LENGEVITCH

"A paper will be read by Dr. B—— on 'Acute Arterior Poliomy Elitsy'."—New Albany (Ind.) *Tribune*, Jan. 25, 1910.

"Dr. A. D. K——, who had for his theme 'Opitus Media,' pertaining to the middle ear: . . . later Dr. W. H. P—— read a paper on 'Ephinacea.'"—Lima (Ohio) *Democrat*, Feb. 2, 1910.

Marriages

GEORGE EMMETT KNAPPENBERGER, M.D., Macomb, Ill., to Miss Agnes Carnduff of Aetna, Ind., January 26.

ADRIAN J. DEHAAN, M.D., East St. Louis, Ill., to Miss Clara Ziegenhein of St. Louis, January 24.

CHARLES F. ELY, M.D., Chicago, to Miss Leila Fairbairn at South Bend, Ind., January 27.

ALFRED L. S. KANE, M.D., Fort Wayne, Ind., to Miss Anna Marie MacDonald of Kalispell, Mont., in Chicago, January 23.

ROBERT EMMETT KEANEY, M.D., De Soto, Mo., to Mrs. McLouthlin, January 22.

CLARENCE BERTRAM LIVINGSTON, M.D., to Miss Addie Z. Johnston, both of Lowell, Mass., January 20.

HERBERT THEODORE WAGNER, M.D., Indianapolis, to Miss Helen Bond of Chicago, January 26.

J. ASA WALKER, M.D., to Miss Minnie Mae Kirst, both of Shawnee, Okla., Dec. 31, 1910.

Deaths

Sigmund Lustgarten, M.D. University of Vienna, Austria, 1881; a dermatologist held in high esteem in his community; died at his home in New York City, January 22, from general miliary tuberculosis, complicated by chronic nephritis and diabetes, aged 53. Dr. Lustgarten was a member of the Medical Society of the State of New York; American, New York, Austrian and German dermatological societies, and the Medical Society of Vienna. He was formerly a privat-docent in dermatology in the University of Vienna, and first assistant to Professor Kaposi. He was consulting dermatologist to the Montefiore Home, and Hebrew Orphan Asylum, and attending dermatologist to Mount Sinai Hospital. The medical board of the hospital, at a meeting January 23, adopted resolutions of the regret at the loss of one of the most faithful medical officers of the hospital, "distinguished by preeminence in his especial field of work, by unusual clinical ability, and by devotion to the highest ideals of the profession."

Abraham H. Strickler, M.D. Bellevue Hospital Medical College, 1866; for thirty-nine years a practitioner of Waynesboro, Pa.; died at his home, January 30, aged 70. During the Civil War, Dr. Strickler served as a medical cadet in the Federal service. For ten years he served as president of the board of health of Waynesboro. He was also a member of the school board and chief burgess. He was a member of the American Medical Association, and American Academy of Medicine, and prime mover and founder of the Medical Society of Franklin County, one of the most earnest workers in the society, a constant attendant at its meetings and indefatigable and watchful for its welfare. He was a member of the legislature in 1893 and 1894 and a leader in the discussions when the medical practice act was presented for passage.

Thomas Harris Cannon, M.D. University of Maryland, Baltimore, 1901; of Baltimore; a member of the American Medical Association and vice-president of the American Electro-Therapeutic Association; demonstrator in the clinical laboratory of the University of Maryland; physician to the Methodist Episcopal Home for the Aged, and surgeon to the Free Summer Excursion Society; a member of the hospital corps of the Army during the Spanish-American War; died in the University Hospital, January 29, from erysipelas, aged 32.

Bernard Wise Moore, M.D. University of Virginia, Charlottesville, 1894; a prominent practitioner of St. Louis; died at his home, January 22, from pneumonia, aged 39. After an internship in New York Hospitals until 1896, Dr. Moore moved to St. Louis, where he became instructor in obstetrics in Washington University, physician to Bethesda Maternity, St. Luke's Hospital, and the Martha Parsons Hospital for Children. Dr. Moore was admirably qualified for his work, an upright physician, a wise councilor and a staunch friend.

John W. Bond, M.D. New York University, New York City, 1846; demonstrator of anatomy in Baltimore University from 1846 to 1852; professor of theory and practice of medicine in Keokuk (Ia.) Medical College from 1856 to 1862; surgeon of the Thirtieth Iowa Volunteer Infantry from 1860 to 1865; later health officer of Toledo and for twenty-five years chief-of-staff of St. Vincent's Hospital; died at his home in Toledo, January 23, aged 86.

Eugene P. Hickok, M.D. Long Island College Hospital, Brooklyn, 1890; formerly a member of the American Medical Association; a member of the Medical Society of the State of New York, Brooklyn Neurological Society, and Brooklyn Pathological Society; visiting physician to Kings County and the Lutheran Hospitals; for many years a physician of East New York; died at his home on Lake George, January 19, aged 51.

Willis Warwood Ranshaw, M.D. Miami Medical College, Cincinnati, 1896; a member of the American Medical Association; and of the medical staff of Speers Memorial Hospital, Dayton, Ky., and Proctor's Children's Home, Covington, Ky.; and at one time health officer of that city; died at his home in Mammoth Cave, Ky., January 18, from heart disease, aged 39.

John Fletcher Byington, M.D. University of Michigan, Ann Arbor, 1897; a member of the American Medical Association, and American Academy of Ophthalmology and Oto-laryngology; professor of ophthalmology, otology and laryngology in the American Medical Missionary College, Chicago; ophthalmic and aural surgeon to the Battle Creek Sanitarium; died in that institution, January 27, from erysipelas, aged 39.

XUM

John W. DeWitt, M.D. Jefferson Medical College, 1863; a member of the Delaware State Medical Society; surgeon of the Seventeenth Pennsylvania Volunteer Cavalry during the Civil War; at one time president of the Delaware State Board of Health; and a member of the district board of pension examiners; died at his home in Saint George's, January 22, from senile debility, aged 70.

Oscar F. Davis, M.D. Kentucky School of Medicine, Louisville, 1885; first lieutenant Medical Reserve Corps, U. S. Army; formerly acting assistant surgeon, U. S. Army with service in the Philippine Islands; a member of the Association of Military Surgeons of the United States; died in the Army and Navy General Hospital, Hot Springs, Ark., February 1, from nephritis, aged 50.

Hugh Campbell Hendry, M.D. Bellevue Hospital Medical College, 1872; in 1875 police surgeon of Newark, and later a member of the board of education; for five years a member of the board of managers of the New Jersey State Hospital, Trenton; first president of the board of works of Newark; died at his home in Woodside, Newark, January 28, from heart disease, aged 61.

Arthur Walter Blair, M.D. University of Vermont, Burlington, 1881; of Dorchester, Mass.; a member of the American Medical Association; surgeon-general for the Commercial Travelers' Eastern Accident Association, and medical director of the Commercial Travelers' Boston Benefit Association; died suddenly in Duxbury, Mass., January 18, from heart disease, aged 62.

Charles G. Polk, M.D. New York University, New York City, 1858; acting assistant surgeon, U. S. Army, from 1865 to 1868; professor of chemistry in the Pennsylvania College of Pharmacy in 1875 and 1876; for more than forty years a practitioner of southwestern Philadelphia; died at the home of his son in Merchantsville, N. J., January 24, aged 75.

Frederick William Rohr, M.D. Bennett Medical College, Chicago, 1880; Rush Medical College, 1889; a member of the American Medical Association; for twelve years attending physician to the Alexian Brothers Hospital; director of the Illinois Piano College; died at his home in Chicago, January 27, from pneumonia following an attack of influenza, aged 52.

Justin Worthing Lamson, M.D. Rush Medical College, 1867; a member of the Missouri State Medical Association and Board of Pension Examiners of Neosho; mayor of that city, and a member of the legislature; until a few days before his death superintendent of State Hospital No. 3, Nevada; died at his home in Neosho, January 16, from nephritis, aged 67.

Edwin Darius Hutchinson, M.D. University of Vermont, Burlington, 1875; a member of the American Medical Association; a veteran of the Civil War; a member of the staff of the Noble Hospital, Westfield, Mass., since its opening, and later a member of the consulting staff; died at his home in Westfield, January 19, from pneumonia, aged 70.

Maurice Gardner Moore, M.D. Jefferson Medical College, 1894; a member of the American Medical Association, and formerly vice-president of the Indiana State Medical Association; lecturer on surgery in the Indiana School of Medicine; died at his home in Vincennes, Ind., January 26, from hemorrhage of the stomach, aged 39.

Frank Guy Sherwood, M.D. University of Buffalo (N. Y.), 1877; a member of the Medical Society of the State of New York and American Public Health Association; health officer of Albion; and coroner and jail physician of Orleans County; died at his home in Albion, January 27, from pleuro-pneumonia, aged 60.

Emory C. Gaffney, M.D. Hahnemann Medical College, Chicago, 1876; for several years a member of the Springfield (Ill.) Board of Health, and supreme medical examiner for the Fraternal Crystal Light Insurance Company; died at his home in Springfield, January 23, from cerebral hemorrhage, aged 61.

Charles E. Dow (license, years of practice, Maine); of Mapleton, Me.; for fifty-one years a practitioner; a member of the Maine Medical Association, and a charter member of the Aroostook County Medical Society; died in Boston, January 29, from cerebral hemorrhage.

W. Monroe Smith, M.D. Atlanta (Ga.) Medical College, 1895; a member of the Medical Association of Georgia; formerly ward physician of Atlanta, and a member of the common council; died while making a professional call, January 25, from heart disease, aged 38.

Franklin J. Whittemore, M.D. New York University, New York City, 1851; until 1890 a practitioner of Terryville and New Haven, Conn., and later in charge of a sanitarium at Clyde, O., for several years; died at his home in Toledo, January 27, aged 82.

Henry Gregory Charles Van Beeck, M.D. Rush Medical College, 1887; a member of the Minnesota State Medical Association; a member of the board of education of Hastings; died at his home in that city, Dec. 23, 1910, from heart disease, aged 49.

Daniel A. Cassela, M.D. Eclectic Medical College of the City of New York, 1885; New York University, New York City, 1890; of New York City; died in one of his drug stores, January 30, from the effects of gunshot wounds of the head, aged 47.

Harry Stephenson Wetzel, M.D. Hahnemann Medical College, Philadelphia, 1898; of Dayton, O.; radiologist to the Miami Valley Hospital; died in that institution, January 19, from the effects of a self-inflicted knife wound of the throat, aged 41.

Henry Crippen Neer, M.D. Berkshire Medical College, Pittsfield, Mass., 1860; a member of the American Medical Association; of Park Ridge, N. J.; died in the Hackensack (N. J.) Hospital, January 27, while undergoing operation for cancer, aged 72.

Isaac E. Randall, M.D. Albany (N. Y.) Medical College, 1866; a hospital steward in the army during the Civil War; division surgeon at Bay City for the Michigan Central Railroad; died at his home, January 20, from heart disease, aged 66.

Walter T. Roberts, M.D. Hospital College of Medicine, Louisville, 1883; of Louisville; died in St. Joseph's Infirmary in that city, January 25, from nephritis, following an operation, necessitated by abscess of the middle ear, aged 51.

George B. Gray, M.D. Medical College of Indiana, Indianapolis, 1884; of Worthington, Ind.; a member of the Indiana State Medical Association; died in a sanitarium in Rockford, Ill., January 20, from nephritis, aged 47.

Donald Boyd, M.D. Albany (N. Y.) Medical College, 1903; health officer of Valatie, N. Y.; died at his home in that place, January 23, from the effects of morphin, self-administered, it is believed, with suicidal intent, aged 34.

Nathaniel Ray Chace, M.D. Hahnemann Medical College, Philadelphia, 1872; was found dead in his office in Newport, R. I., January 17, aged 68. The medical examiner decided that death was due to natural causes.

William Amos Conn (years of practice, Virginia); for thirty-eight years a practitioner; a Confederate veteran; died at his home in McGaheysville, Va., January 3, from cancer of the liver, aged 66.

Britton S. Utley, M.D. College of Physicians and Surgeons, Baltimore, 1878; a member of the Medical Society of the State of North Carolina; died at his home in Holly Springs, January 19, aged 68.

Christopher E. Corlett, M.D. Western Reserve University, Cleveland, 1902; house physician at St. Alexis Hospital, Cleveland; died January 23, at his home in Cleveland, from pneumonia, aged 33.

Alexander Hardcastle, M.D. Jefferson Medical College, 1849; a member of the General Assembly of Maryland in 1870 and 1872; died at his home in Denton, January 24, from pneumonia, aged 84.

Addison C. Fox, M.D. Jefferson Medical College, 1861; surgeon in the Confederate service during the Civil War; died at his home in Baltimore, January 23, from pneumonia, aged 75.

Joseph A. Diemert, M.D. Western Reserve University, Cleveland, 1886; died at the home of his daughter in Cleveland, January 22, from rheumatic endocarditis, aged 54.

William J. Middleton (license, Idaho, 1899); for nineteen years a practitioner, a pioneer of Idaho; died at his home in Saint Anthony, January 13, from paresis.

James Faith, M.D. Eclectic Medical Institute, Cincinnati, 1869; died at his home in Palmyra, Illinois, January 18, from pneumonia, aged 69.

Hilary Tucker Sweeney, M.D. Harvard Medical School, 1889; died at his home in East Boston, January 11, from heart disease, aged 44.

Eli Granger Clark, M.D. Western Reserve University, Cleveland, 1852; died at his home in Willoughby, O., January 29, aged 84.

Joseph Francis Grainger, M.D. Tufts College Medical School, Boston, 1906; died at his home in Cambridge, January 23, aged 28.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

BISMUTH IODO-RESORCIN SULPHONATE

Report of the Council on Pharmacy and Chemistry

A pharmaceutical preparation submitted to the Council was said to contain as its essential ingredient, bismuth iodo-resorcin sulphonate. In accordance with its general procedure, the Council investigated this unofficial constituent when it considered the preparation that was said to contain it. The following report was made to the Council in reference to this constituent:

The Council, having voted to take up the consideration of bismuth iodo-resorcin sulphonate, the Association chemists were requested to investigate the composition of the specimen submitted by the firm whose pharmaceutical preparation contained this substance as an ingredient. The composition of this article, as determined by the chemists, varied widely from the composition that was claimed by the firm. In view of these discrepancies, the Council directed that the chemists' findings be submitted to the firm and an explanation requested. This was done and the firm replied by acknowledging the differences in general, but attacking in many minor ways the findings of the laboratory. The Association chemists now report an exhaustive reexamination of the product in reference to the points involved. This, while showing a slight modification of the previous findings, because more refined methods were used, shows on the whole, that the firm was grossly ignorant regarding the composition of its product. It also shows that the firm's attack on the chemists' work was without justification.

As this furnishes a typical illustration of the many obstacles which are put in the way of the Council and the laboratory, and since it is a good illustration of the lack of reliance which is to be placed on the statements of many firms, the referee has requested the chemists who made the examination to prepare a record of their work. This record is now presented and it is recommended that the Council authorize its publication. As it is not believed that the submission to the Council of a preparation untrue to claims was deliberate on the part of the firm, and inasmuch as more recently a specimen of bismuth iodo-resorcin sulphonate, containing the amount of iodin claimed, has actually been received, it is recommended that when the report is published, the names of the firm and of the preparation be omitted.

The Council authorized publication of this report and also of the contribution from the chemical laboratory, but in accordance with its regular custom, both reports were sent to the interested firm before publication. The firm, in reply, requested that before publication the report be modified. The referee of the Council submitted this reply to the chemists for comment and then requested that the entire matter be assigned to a second referee for an opinion. This was done and the second referee submitted the following report:

"Your referee has gone over the whole matter of the claims for the composition of the bismuth iodo-resorcin sulphonate. The firm submitting the product gives a formula which calls for the presence of 19.69 per cent. of iodin and 43.17 per cent. of bismuth. A preliminary analysis made in the Association laboratory showed about 10 per cent. of iodin and about 50.6 per cent. of bismuth. When these findings were submitted to the firm they questioned the accuracy of the analyses and presented some analyses of their own, which, however, did not support their own claims for the formula, but do suggest that the product cannot be a definite chemical compound of the composition assumed. A second analysis in the Association laboratory shows now 11.59 per cent. of iodin, as against 14.2 per cent. reported by the firm's chemist. The firm next set up the plea that the discrepancy may be explained by the hygroscopic character of the product, which, they say, the Association laboratory did not take into consideration.

"The present referee is of the opinion that the contention of the firm does not conform to the facts. The formula proposed by the firm gives a ratio of iodin to bismuth of 1:2.19, but according to the firm's own submitted analysis the ratio should be 1:3.19. This situation alone is sufficient to show the absurdity of the claim that the composition of the product is definitely known. It is probably an indefinite mixture, or at any rate a product the composition of which is not accurately known to the firm manufacturing it. The report of the Association laboratory gives the bismuth content even higher, and this would be still further increased if the moisture content were to be calculated out, as the firm finally contended. Such a correction would not help the firm's formula.

"Several of the statements in the letters from the firm are but little more than quibbles, and seem unworthy of consideration. The failure to substantiate a formula is enough to condemn the contention of the firm and to warrant a rejection of its claims. The final report of the Association laboratory appears to present a perfectly fair statement of the situation, and your referee recommends its publication in full as well as that of the first referee's report and of this report.

"It is worthy of notice, however, that while the Council is unable to accept bismuth iodo-resorcin sulphonate or the proprietary preparation containing it, as submitted by this firm, the firm's products have been materially improved as a result of the Council's investigation."

The second referee's report was adopted by the Council and in accordance with the recommendation, the matter is herewith published.

W. A. PUCKNER, Secretary.

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

Bismuth Iodo-Resorcin Sulphonate

W. A. PUCKNER AND L. E. WARREN

Some time ago a proprietary preparation (in the form of suppositories) which was said to contain bismuth iodo-resorcin sulphonate as its chief ingredient, was refused recognition by the Council because, among other things, the claims made in regard to its composition were not substantiated by the firm which sold it. Subsequently the results of the examination of this product in the Association laboratory were published,[1] and it was shown that the preparation contained only negligible amounts of iodin and hence could not possibly contain more than very small amounts of bismuth iodo-resorcin sulphonate.

A similar preparation was recently submitted to the Council with the claim that it contained bismuth iodo-resorcin sulphonate as its essential constituent. In accordance with its usual procedure the Council considered this constituent at the same time that the preparation containing it was taken up.

The formula assigned by the manufacturer to this substance is as follows:

$$[C_6H_2(OH)_2ISO_3]_3Bi.3Bi(OH)_3$$

Bismuth iodo-resorcin sulphonate apparently is not described in chemical literature. The manufacturer of the specimen examined stated, however, that the process for the manufacture of the substance was "the subject of a patent application" by the firm. The potassium salt, from which the bismuth salt is said to be prepared, has been obtained in the form of microscopic crystals containing three molecules of water of hydration,[2]

$$KC_6H_2(OH)_2ISO_3+3H_2O$$

THE QUESTIONS INVOLVED

The points involved in the examination which is here reported[3] have been classified as follows, for the purpose of bringing out the matter more clearly:

1. From the formula submitted by the manufacturer it was calculated that the bismuth salt should contain 19.69 per cent. iodin and 43.17 per cent. bismuth.

1. Anusol Hemorrhoidal Suppositories: THE JOURNAL A. M. A., Oct. 2, 1909, p. 1112.
2. Fischer: Monatschr. f. Chem., ii, 1881, 340.
3. The details of the analysis will be sent on receipt of a stamped, addressed envelope; they will also be published in the annual report of the chemical laboratory.

2. From the formula found in the literature it was also calculated that the potassium salt should contain 31.079 per cent. iodin and 13.22 per cent. of water.

3. In the first examination we reported finding but about 10 per cent. of iodin in the bismuth salt (in which 19.69 per cent. iodin had been claimed) and about 50.6 per cent. of bismuth, an amount considerably larger than that indicated by the formula.

4. We also reported finding about 28.06 per cent. iodin in the firm's specimen of potassium iodo-resorcin sulphonate in which, if the formula were correct, there should have been 31.079 per cent.

THE FIRM'S REPLY

These facts, substantially as given, were submitted to the firm which replied to the points raised as follows:

1a.—The theoretical iodin content of the firm's bismuth salt was 20.76 per cent. and its bismuth content was 45.36 per cent.

2a.—The potassium salt contained no water of hydration and theoretically should, therefore, contain 35.84 per cent. of iodin.

3a and 4a.—The method used by the Association laboratory for the determination of iodin was not a standard one in chemical literature since it gave but about 70 per cent. of the total iodin present. After the firm had reexamined a portion of the original specimen, it reported that by its method it had found 14.2 per cent. iodin. According to the formula it should have contained 19.69 per cent. iodin, although the Association chemists had found but about 10 per cent. iodin. The firm stated that in the earlier examinations of its product a reagent had been used which was afterward found to contain large amounts of chlorin. In making the iodin estimations this chlorin was weighed as (silver) iodid with consequent erroneous results, no control estimations, evidently, having been made.

REEXAMINATION BY THE LABORATORY

Our calculations of the theoretical iodin and bismuth content in bismuth iodo-resorcin sulphonate having been challenged, the values were recalculated. This recalculation showed that the values first reported were correct and that the firm's challenge was unwarranted.

Our findings concerning the iodin content in bismuth iodo-resorcin sulphonate also having been challenged, the iodin in the original specimen was redetermined by several independent methods. The highest result obtained by any method was 11.59 per cent. iodin. Although somewhat higher than that obtained by the method previously used, it is still considerably less than was claimed by the firm in its reexamination, viz., 14.2 per cent. An appreciable quantity of chlorin was also found, which may explain, at least in part, the firm's wrong estimate of its product.

On reexamining the potassium salt we found 32.00 per cent. of iodin and 10.41 per cent. of water—this notwithstanding the fact that the firm had asserted that its product contained no water of hydration.

A review of the above facts shows that the contentions of the firm could not be substantially confirmed. To summarize:

SUMMARY

1. The firm's claim that the laboratory's calculations were wrong is shown to be unfounded.

2. The firm's statement that its potassium salt of iodo-resorcin sulphonic acid contained no water of hydration is shown to be wrong, the salt, in fact, containing more than 10.0 per cent. of water.

3. The contention of the firm that the first method of analysis used by the Association laboratory gives low results is correct. The assertion is, however, not justified that the method gives but 70 per cent. of the iodin present since the amount first reported by us is about 88 per cent. of the amount found later.

The accompanying table gives in graphic form the essential points of the controversy.

	According to firm's formula or formula in literature.		According to analysis of Association chemists.	According to the firm's revised statements.	According to the check analysis of Association chemists.
Iodin content in bismuth salt ...	19.69	*	10.00	{20.76 § {14.20	11.59
Bismuth content in bismuth salt ...	43.17	*	50.60	45.36 §	No analysis made.
Iodin content in potassium salt..	31.079	†	28.06	35.84	32.00
Water of hydration in potassium salt	13.22	†	No analysis.	0.0	10.41

* Based on formula given by firm.
† Based on formula given in literature.
§ These figures were later acknowledged by the firm to be incorrect.

PHYSICIAN AND DRUGGIST

Charles M. Siever, Ph.G., M.D.

HOLTON, KANS.

The difference that has long existed between physician and druggist in regard to counter prescribing and the refilling of physicians' prescriptions has been brought about, in part by the action of the physician himself, and in part by the misuse of the prescription by the druggist; that is, the refilling of the prescription by the druggist without the permission of the physician who wrote it. This refilling has often been done, not only for the person for whom it was originally intended, but for persons who have not had even a speaking acquaintance with the physician. Too many physicians use in their prescriptions so many proprietary preparations, which are so labeled, and the therapeutic indications given in such detail, that the druggist feels in dispensing them that he is handing out no more than a "patent medicine," and, as a matter of fact, that is what they amount to and what they often become.

Many patients soon learn the name of this class of remedies and call for them without a physician's prescription; so that in many cases the dispensing of ready-made preparations, or the refilling of prescriptions, is not wholly the fault of the druggists. While I believe the majority of druggists are honest and would not refill prescriptions if physicians asked them not to do so, yet many prescriptions are so simple, especially those for proprietary preparations—ready-made pills and tablets—that it is a great temptation for even the most honorable druggist to refill such prescriptions. In so doing he feels that he is saving the patient a fee, and also making a sale for himself. I do not believe the physician should use so much ready-made stuff, yet the druggist should not take advantage of his weakness, even in selling or refilling a prescription for such a simple thing as a laxative pill. There are many prescriptions refilled for patients which no doubt do them more harm than good, and in order to save the druggist from this temptation, and to protect the interests of the physician as well as the physical interest of the patient, there ought to be some better method devised than the one now in vogue.

This brings up the question of who owns the prescription. In my opinion, it is the exclusive property of the physician. It is simply an order on the druggist to prepare certain medicine for a certain person and to label it according to instructions. After it is filled, the patient has no more claim on it than he has on a check after it has been cashed. The druggist has no more right to retain the prescription than the bank has to retain the check after it has fulfilled its mission; but as a precaution and for the protection of the druggist he should be allowed to place it on file for a reasonable length of time, perhaps not to exceed thirty days. At the end of that time, it should be returned to the physician who wrote it, to be destroyed or otherwise, as he sees fit.

The working of such a system would be as follows:

> The physician would give the patient a prescription, stating the date and for whom the medicine was to be prepared.
>
> The patient would take the prescription to the druggist who would prepare the medicine and then stamp the prescription with a stamp which would state that the prescription had been filled on a certain date and was cancelled.

The druggist would then file it away for thirty days, but under no circumstances would he be allowed to refill, copy or in any manner communicate the ingredients of the prescription to any one, unless it be for his own protection on account of some alleged error, etc.

At the end of thirty days the prescription would be returned to the physician who wrote it.

I believe a law to this effect would be satisfactory to all concerned and accomplish a great deal in the way of getting the physician and druggist more closely together, which would be a most desirable thing; for a physician cannot hold his exalted position and give his best work to his patients if he has constantly to keep in mind commercial considerations.

Such a law, operating in all of the states, would make the relation of the physician and druggist more pleasant, would do away with counter prescribing by the druggist and would also lessen self-drugging by the laity.

[EDITORIAL COMMENT:—Dr. Siever gives arguments against the indiscriminate use of ready-made mixtures which are incontrovertible. They should convince those physicians who have been thoughtless enough to prescribe the various ready-made pills, tablets, syrups and elixirs with which this country is deluged that it is to the best interests of the physician, the patient and the public that individual prescriptions be written for individual cases. The proposed return of the physician's prescription to the writer within a specified time would be most desirable in many ways. At present the pharmacist is generally looked on as the custodian of the prescription and it will require considerable effort to convince the pharmacist and particularly the public of the correctness of this better view as to the ownership of prescriptions. A discussion of this matter would certainly be of interest].

Correspondence

The Niemeyer Pill

To the Editor:—The well-known pill of calomel, squills and digitalis no doubt antedates the time of Niemeyer, as suggested by Dr. James Tyson in THE JOURNAL, Jan. 21, 1911, p. 211. It was usually prescribed:

℞ Hydrargyri chloridi mitis 3ss
Pulveris scillæ 3i
Pulveris digitalis 3ss
M. et fiat pilulas XXXII.
Sig. One every four or five hours.

This pill was used for ascites, dropsy and effusions. I worked out many a one over forty years ago, and my father-in-law, the late Dr. Henry Carpenter, prescribed and worked out the same formula more than thirty years before my time. There was, however, a pill prescribed by Dr. C. Murchison, of London, consisting of:

℞ Pulveris scillæ ..... gr. iss
Pulveris digitalis fol. ..... gr. ss
Pilulæ hydrargyri ..... gr. ii
M. et fiat pilulam I.
Sig. One such pill three times daily in ascites.

This pill enjoyed a long and creditable reputation in the treatment of dropsy.

Felix v. Niemeyer's pill may have been suggested about 1869 (See his Text-Book on Practical Medicine, Am. Ed., 1869, Vol I, p. 244) with a view of combating the fever of phthisis. It consisted in:

℞ Pulveris digitalis fol. ..... gr. ss
Pulveris ipecacuanhæ .....
Pulveris opii, ää ..... gr. ¼
Extracti helenii, q.s. .....
M. et fiat pilulam I.
Sig. One pill three times daily.

Quinin sulphate, gr. 1, was added to the above prescription when the type of fever became periodical, and the exacerbations and chills much pronounced.

ROBERT M. BOLENIUS, Lancaster, Pa.

[The above was submitted to Dr. Tyson who comments:]

To the Editor:—Dr. Bolenius is correct. Of course many modifications of the doses and even constituents of the true Niemeyer's pill have been made by various prescribers to meet special indications and it is likely that Niemeyer's pill itself was suggested to him by Heim's pill which is also given on page 244, Vol. 1, of Niemeyer's "Practice" and of which the formula is given by Dr. Bolenius in the last prescription of his letter. Niemeyer says much the same thing in his "Practice" as I quoted but I preferred to refer to his little book on "Pulmonary Consumption" because it is especially devoted to the subject.

Since my letter to THE JOURNAL Dr. Cattell has called my attention to the fact that in his "Medical Dictionary" published by Lippincott, edition of 1910, he has given the correct formula for Niemeyer's pill and I so find it.

JAMES TYSON, Philadelphia.

Pasteurized Milk at Randall's Island

To the Editor:—In THE JOURNAL (Jan. 7, 1911, p. 20), there appeared a very interesting paper on infant mortality by Drs. Koehler and Drake. On page 23 were the following paragraph and table:

The Mortality at the Infant Asylum at Randall's Island.—When the infants in the care of the City of New York were fed on milk from a carefully selected herd pastured on the island, the death-rate was as shown in the first part of Table 5. A pasteurizing plant was installed in the early part of 1898. No other change in diet or hygiene was made.

TABLE 5.—DEATH-RATE AT THE INFANT ASYLUM, RANDALL'S ISLAND

BEFORE THE USE OF PASTEURIZED MILK

	Children Treated	No. of Deaths	Percentage
1895	1,216	511	42.02
1896	1,212	474	39.11
1897	1,181	524	44.36
Total	3,609	1,509	41.81

AFTER THE USE OF PASTEURIZED MILK

1898	1,284	255	19.80
1899	1,097	269	24.52
1900	1,084	300	27.68
1901	1,028	186	18.09
1902	820	181	22.07
1903	542	101	18.63
1904	345	57	16.52
Total	6,200	1,349	21.75

The Department of Charities published no reports from 1894 to 1902. Examination of the original records shows that, while the figures are correct for the most part, the accompanying statements and deductions are erroneous. Similar assertions have been made before and refuted in public meetings at the New York Academy of Medicine and elsewhere, as well as in print.

The following extracts from the minutes of the meetings of the medical board show chronologically the development of feeding by sterilized and pasteurized milk, and the difficulties attending its introduction in a public institution:

1888—October. "Recommended that a method of sterilizing milk be adopted for the Infant's Hospital."

1890—October. "Dr. Van Santvoord reported that some weeks ago he investigated the method of sterilization of the milk practiced in the Infants' Hospital and found that it was very carelessly done by the workhouse women. He put it under direct control of the managing nurse and the result had been greatly to the benefit of the children."

1893—February. "Recommend immediate change in sterilization of milk. That it be put (again) in charge of a competent nurse," etc.

1895—February. Special report on milk-supply by W. L. Stowell. "Bottle-fed infants are given milk from cows on the island. . . . The milk is brought to the hospital immediately after milking and then pasteurized for twenty minutes at a temperature of 170 F. This is done in large steam caldrons in the kitchen."

NOTE.—This is the first year of the table mentioned as "Before the Use of Pasteurized Milk." An error.

1896—In this year *percentage feeding* was introduced. A number of stock formulas were made up daily and pasteurized for twenty minutes in feeding bottles bearing metal collars with the percentages as 3.5-6.5-1.5. This was done for a time in the steam cooking-caldrons, but later in wash-boilers heated over gas stoves.

NOTE.—This year also appears in the table as "Before the Use of Pasteurized Milk." An error.

1897—July. Walker-Gordon cream was recommended.

1898—This was a revolutionary year in the history of the institution. The infants were removed to pavilions and the main hospital was practically rebuilt except the walls. There were new plumbing, new floors and new metal ceilings throughout.

Beginning in January, 1898, all the bottle-fed infants received modified Walker-Gordon cream. At the March meeting Walker-Gordon cream was mentioned with praise.

April meeting. The executive committee reported that Mr. N. Straus had given a pasteurizing apparatus for milk. This proved to be a set of eight copper boilers instead of the tin ones used until then. The committee also commended the nurse in charge of the milk.

In May, "Attending Physician Stowell reported more and better nurses than heretofore, more graduate nurses and therefore better results." The number of wet-nurses was increased from twenty to fifty and they nursed 139 babies. "No change in diet," says the paper.

Beginning in January all infectious diseases were removed from the island by the Department of Health, thus saving mortality figures at Randall's Island.

Boarding or farming-out was resumed in April, sixty-one babies being sent to country homes. "No change in hygiene was made"?

The superintendent's report to the commission contains this: "Many improvements were inaugurated and carried out."

1901—January. Dr. Neff reports a great number of infants in bad condition, and says: "The milk fed the children should come from the cows on the island" (referring to bottle-fed infants).

1903—October. "An average of thirty babies daily have received modified milk prepared from Walker-Gordon cream. Cooley creamers have now been provided and hereafter we can produce our own gravity cream." This was in the hope of having fresh cream with low bacterial count.

Thus we find that Walker-Gordon cream was in use for six years, 1898-1903, whereas the article referred to credits "a carefully selected herd on the island." Alas! the history of that herd and their tuberculosis has been published (*Medical Record*, June 20, 1908).

It is a matter of record that sterilized milk was in use there as early as 1890, and that pasteurized milk was in use through all the years of the table. "Before and after the use of pasteurized milk," are therefore contrary to fact. Instead of "no change in hygiene," there was removal of some infants to pavilions, some to the country, and all the contagious cases from the island. Instead of "no other change in diet" witness the records:

	1897	1898	1899	1900	1901
Orphans wet-nursed	21	138	152	156	159
Orphans bottle-fed	591	506	462	389	262

The percentage of deaths was at its highest point under pasteurized milk. Other factors caused the fall, not pasteurized milk.

WILLIAM L. STOWELL, New York.
Visiting Physician to the New York City Children's Hospital and Schools, Randall's Island.

[A proof of the above was referred to the authors of the article criticized and they reply:]

To the Editor:—The statistics quoted in our article were taken from page 243 of the chapter on "Morbidity and Mortality Statistics as Influenced by Milk" in Bulletin 56 of the Hygienic Laboratory, entitled "Milk and Its Relation to Public Health." The article is written by Dr. J. M. Eager, Assistant Surgeon-General, Public Health and Marine-Hospital Service. No reference is made to the original source of these statistics, and we took it for granted that they were taken from the reports of the Infant Asylum at Randall's Island, by the government official. We have not had a chance to examine the original records giving the mortality figures for the Infant Asylum at Randall's Island, and are glad to note that Dr. Stowell says that the figures quoted "are correct for the most part."

The fall in the death-rate since 1879 is attributed in our article to the installation of a pasteurizing plant. The extracts from the minutes of the meeting of the medical board of the institution show that the pasteurizing plant was given by Mr. Nathan Straus to the institution in April, 1898.

Extracts from the minutes are quoted to show that before this time the milk had been sterilized, and that in 1895 the milk was heated in large steam caldrons in the kitchen, and in 1896 in wash boilers, heated over gas stoves. From the comments on the methods of "sterilization" practiced, appearing in the extracts of the minutes for 1890 and 1893 it appears that they were not carried out very satisfactorily.

The improvements made since 1897 in the sanitary conditions of the institution, and in the care of the patients are such as have been made in many other infant asylums and hospitals. In the report of the Department of Charities for 1893 there is recorded a long list, covering three pages, of improvements in the building, equipment and caretaking. Why did this not result in an immediate lowering of the death-rate in 1893?

Bottle feeding was practiced quite as extensively in 1898, as in 1897, and the percentage of deaths in the two years is 44.36 and 19.80, respectively.

After a careful study of the extracts from the minutes quoted in Dr. Stowell's letter, we are still of the opinion that the fall in the infant mortality, beginning in 1898, simultaneously with the installation of improved pasteurizing apparatus given by Mr. Nathan Straus, is due to the change in diet and cannot be explained on the basis of sanitary improvements or attributed to the other changes made in the institution.

GOTTFRIED KOEHLER, M.D., Chicago.
Assistant Commissioner of Health.
C. ST. CLAIR DRAKE, M.D., Chicago.
Assistant Chief, Bureau of Vital Statistics.

Not Prepared to Furnish Cancer Serum

To the Editor:—In the New York news in THE JOURNAL, January 28, it is stated that I have announced that I am prepared to supply a serum which has been shown to be effective in treating cancer. This statement is wrong. The dispatches which have appeared in the daily press referring to an interview in one of the Buffalo papers have been so changed from the original as entirely to misrepresent my position.

I have not announced a cure for cancer. Neither do I believe that vaccination will be beneficial in more than a limited percentage of cases. The results obtained in this laboratory have shown that methods which have given experimental results with animals have some applicability in human beings. There have been encouraging results in a limited number of cases. The method is not applicable in advanced cases; some patients have done badly under this treatment.

The matter is still in the experimental state, and it is not possible to place the vaccine in the hands of the profession, nor would it be desirable for patients to come to Buffalo at the present time. The results have been sufficiently encouraging, however, to warrant asking the State of New York to provide a hospital for the purpose of developing and elaborating this and other methods of treatment for cancer.

HARVEY R. GAYLORD, Director of Cancer Laboratory.

Pneumonic Plague in China

To the Editor:—Noting the pneumonic character of the plague in China and the fact that there are no dead rats, I would say that while in Siam it was my observation and knowledge that the pneumonic form of the disease was contracted from patients with the bubonic form and from rats, I have also found dead rats and dead chickens under the houses of those dead of the pneumonic form of the plague.

Eleven people died in one house of the pneumonic plague. The disease was carried by infected rats which traveled from Korat, where the bubonic form prevailed, in freight trains loaded with rice, to Ban Phagi, 100 miles away, where plague in the pneumonic form broke out ten days later than at Korat. The reason the pneumonic form was not so prevalent in Siam is that the people live practically in the open air, so that personal contagion is greatly eliminated.

CHARLES S. BRADDOCK, JR., New York.
Late Chief Medical Inspector, Royal Siamese Government.

A Correction of the Carnegie Foundation Report on Medical Education in Montreal

To the Editor:—Permit me to utilize your columns in order to rectify an error in Bulletin 4 of the Carnegie Foundation, dealing with Medical Education in the United States and Canada. I refer to my account of the medical department of Laval University, Montreal. This institution is entirely distinct from Laval University, Quebec, which also has a medical department. The Quebec school, however, publishes in its catalogue certain data respecting the Montreal school, and I inadvertently give in my account of the Montreal school some material taken from the inadequate statement in the Quebec catalogue.

The staff of the Montreal school numbers 50, of whom 20 are professors.

The number of beds in the two general hospitals used should have been given as 290, and an additional statement that the school has several supplementary hospitals should have been made.

The lectures on chemistry for medical students are given by a professor in the medical faculty.

ABRAHAM FLEXNER, New York City.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

AGAR-AGAR IN CONSTIPATION

To the Editor:—Please describe the use of agar-agar in the treatment of constipation. X. Y. Z.

To the Editor:—Please give references to the literature on the agar-agar treatment of constipation. J. K. B.

ANSWER.—A small proportion of constipated individuals owe their constipation to a too vigorous digestion, which removes from the intestinal contents all the soluble and nutritive constituents and leaves a mass which becomes hard and dry, and in which bacteria fail to produce the acids which normally stimulate the bowels to move. This difficulty is often increased by a too nutritious diet; that is, the patient is not in the habit of eating enough food with debris in it, such as whole wheat or graham bread and the vegetables and fruits which have indigestible fibers.

For this condition agar-agar is prescribed because it is an insoluble and indigestible substance with a marked affinity for water; consequently, when a considerable quantity of it is taken it absorbs water in the intestinal canal, and thus renders the feces soft and bulky. The softness ensures easy passage and their bulk stimulates the action of the bowel on the principle that tension of a muscle arouses its contractile power.

Agar-agar is found in commerce in the form of strips, which must be ground or cut into small pieces for use. It can also be obtained in the form of a coarse powder. It is administered in a dose of from a teaspoonful to a tablespoonful, or more, once or twice daily, mixed with some form of food, such as cereal, stewed apples, etc.

The following articles discuss this subject:

Schmidt, A.: Explanation and Rational Treatment of Habitual Constipation, *München. med. Wchnschr.*, Oct. 10, 1905; abstracted in THE JOURNAL, Dec. 23, 1905, p. 1992.

Mangelsdorff: Agar-Agar in Habitual Constipation, *Therap. Monatshefte*, May, 1908; abstracted in THE JOURNAL, June 20, 1908, p. 2117.

Gompertz, L. M.: Chronic Constipation Clinically Considered, *Am. Jour. Med. Science*, October, 1909.

Martinet, A.: Agar-Agar in Chronic Constipation, *Presse Médicale*, Paris, March 30, 1910.

Gompertz, L. M.: Agar-Agar Treatment of Chronic Constipation, *Practitioner*, London, May, 1910; abstracted in THE JOURNAL, July 2, 1910, p. 89.

Morse, L. J.: Agar-Agar in Treatment of Constipation in Childhood, THE JOURNAL, Sept. 10, 1910, p. 934.

WORKS ON PRODUCTION OF CLEAN MILK

To the Editor:—I note in THE JOURNAL (January 7, p. 48), an editorial on milk production, in which you refer to an article in *Hoards Dairyman*. Please give me the address of the publishers, and the names of publications and publishers of any other recent works on the production of clean milk.

W. B. SUMMERALL, Atlanta, Ga.

ANSWER.—*Hoards Dairyman* is a periodical published in Chicago, at 164 Dearborn Street.

The following are some of the books which may be consulted on this subject; the Hygienic Laboratory bulletin gives a very complete bibliography:

Pearson: Jensen's Milk Hygiene, J. B. Lippincott Co., Philadelphia.

Spargo: The Common Sense of the Milk Question, Macmillan Co., New York.

Milk and Its Relation to the Public Health, Bull. 56, Hyg. Lab., U. S. Public Health and Marine-Hospital Service, Washington, D. C.

Ward: Pure Milk and the Public Health, Taylor and Carpenter, Ithaca.

WATER SUPPLIES AND TYPHOID

To the Editor:—Three or four years ago THE JOURNAL published a comprehensive article on the water-supply of cities, showing the sources of water and the death rate from typhoid during the year. I have probably loaned the article and am not now able to locate it with the indexes at hand. Can you give me the date on which it appeared, and also any more recent articles along this line?

G. L. KING, Alliance, Ohio.

ANSWER.—The article referred to is probably one which appeared serially in THE JOURNAL, May 18 and 25 and June 1 and 8, 1907. Other articles on the subject which may be of interest are as follows:

Typhoid Epidemics at Ithaca; special article in THE JOURNAL, March 21 and 28 and April 4, 1903.

Typhoid Epidemic at Butler, Pa.; special article in THE JOURNAL, Dec. 12, 1903, p. 1476.

Fulton, J. S.: Typhoid Fever and Hindrances in Its Prophylaxis, THE JOURNAL, Jan. 9, 1904, p. 1.

Johnson, W. S.: Quality of Public Water-Supplies, THE JOURNAL, Aug. 31, 1907, p. 762.

Clark, H. W.: Filtration of Public Water-Supplies, THE JOURNAL, Aug. 31, 1907, p. 764.

Dutton, W. F.: Responsibilities of Municipalities in the Ohio Valley for Epidemics of Typhoid Fever, THE JOURNAL, Oct. 31, 1908, p. 1496.

Breitenbach, O. C.: Choleriform Diarrhea of Cold Weather—"Winter Cholera," THE JOURNAL, Oct. 31, 1908, p. 1496.

Soper, G. A.: The Discharge of Sewage Into Tidal Waters, THE JOURNAL, April 17, 1909, p. 1221.

Evans, W. A.: Lake Michigan Water for Drinking Purposes, THE JOURNAL, Oct. 2, 1909, p. 1091.

Wood, H. B.: The Economic Value of Protecting Water-Supplies, THE JOURNAL, Oct. 2, 1909, p. 1093.

Lumsden, L. L.: Epidemiologic Studies of Typhoid Fever, THE JOURNAL, Oct. 16, 1909, p. 1257.

Typhoid Fever in Milwaukee and the Water-Supply; special article in THE JOURNAL, July 16, 1910, p. 211.

Fell, G. E.: The Currents at the Easterly End of Lake Erie and Head of Niagara River, and Their Influence on Sanitation of City of Buffalo, THE JOURNAL, Sept. 3, 1910, p. 828.

Dutton, W. F.: Present-Day Problems and Progress in Prevention of Typhoid Fever, THE JOURNAL, Sept. 3, 1910, p. 834.

Typhoid Fever in Detroit and the Water-Supply; special article in THE JOURNAL, Oct. 8, 1910, p. 1284.

Typhoid Fever in Des Moines, Iowa, and the Water-Supply; special article in THE JOURNAL, Jan. 7, 1911, p. 41.

WHY THE FETUS DOES NOT DROWN IN THE LIQUOR AMNII

To the Editor:—Why is it that the fetus does not drown in the bag of waters? H. K. M.

ANSWER.—Until the fetus is expelled into the world the lungs are in a condition of complete atelectasis. No respiratory movements have occurred; hence there has been no opportunity for the liquor amnii to enter the air cells. The fetus obtains its oxygen through the maternal blood and cannot drown. After expulsion there does not remain a sufficient amount of liquid in the air passages to interfere with breathing.

INSTITUTES FOR MEDICAL RESEARCH

To the Editor:—Please give the names and addresses of the various endowed institutes for medical research in this country.

W. B. LAFORCE, M.D., Ottumwa, Iowa.

ANSWER.—Two prominent endowed institutions for medical research are:

Rockefeller Institute for Medical Research, New York.

Memorial Institute for Infectious Diseases, Chicago.

In addition there are various laboratories working under gifts or endowments that carry on research in various special lines, or in general lines. Among them are:

Crocker Cancer Research Fund, New York.

Russell Sage Foundation, New York. Special funds are sometimes granted by this foundation for carrying on work in certain lines.

St. Louis Skin and Cancer Hospital, St. Louis. This institution is doing special research work under Prof. Leo Loeb in cancer, and has a specially equipped laboratory for this purpose.

Cushing Laboratory, Cleveland, Ohio.

Ayer Clinical Laboratory, Philadelphia.

William Pepper Medical Laboratory (U. of P.), Philadelphia.

Phipps Institute for the Study of Tuberculosis, Philadelphia.

Bender Laboratory for Cancer Research, Buffalo, N. Y.

Wistar Institute of Anatomy, Philadelphia.

Harvard, Columbia, Cornell and Johns Hopkins each have research laboratories working under special or general endowment.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Feb. 4, 1911.

Allen, William H., lieut., ordered to Walter Reed General Hospital, Takoma Park, D. C., for observation and treatment.

Skelton, Robert, M.R.C., ordered to active duty and will proceed to Fort Adams, R. I., for station and duty.

Little, William L., captain, granted two months' leave of absence.

Leslie, Samuel H., D.S., granted twenty-one days' leave of absence.

Leslie, Samuel H., D.S., returned to Fort Leavenworth, Kan., from temporary duty at Fort Riley, Kan.

Davis, Oscar F., M.R.C., died at Army and Navy General Hospital, Hot Springs, Ark.

Eber, Albert H., M.R.C., assigned to permanent duty at Fort Dade, Fla.

Tuttle, George B., M.R.C., granted leave of absence for one month and twenty-one days.

Hayne, James A., M.R.C., granted leave of absence for two months.

Bartlett, G. J., captain, leave of absence extended twelve days.

Ebert, Rudolph G., colonel, promoted to, with rank from Dec. 27, 1910.

Arthur, William H., colonel, promoted to, with rank from Jan. 1, 1911.

Willcox, Charles, lieut.-colonel, promoted to, with rank from Dec. 27, 1910.

Raymond, Thomas U.; Snyder, Henry D.; Smith, Allen M., and Clarke, Joseph T., lieut.-colonels, promoted to, with rank from Jan. 1, 1911.

De Laney, Matthew A., major, promoted to, with rank from Dec. 27, 1910.

Halloran, Paul S.; Fidd, Peter C.; Brechemin, Louis, Jr.; Bloombergh, Horace D.; Nelson, Kent, and Shaw, Herbert G., promoted with rank from Jan. 1, 1911.

McAlister, John A., D.S., reported for duty at Fort Leavenworth, Kan.

Each of the following named officers of the Medical Reserve Corps is relieved from duty at the Army Medical School, this city, and will proceed to his home, and on arrival there will report by telegraph to the adjutant general of the Army: Blair, Faris M.; Dolley, Gilman C.; Lynch, Edward C.; McLaughlin, William F.; Pulver, Arthur L.; Scherer, Carl A.; Underwood Gordon B.; Williams, Harry B.; Wilson, James H. Each of the officers named will stand relieved from further active duty in the Medical Reserve Corps, to take effect on his arrival at his home.

Fauntleroy, P. C., major, February 1, orders detailing him for a course of instruction at the Army Field Service School for Medical Officers, Fort Leavenworth, Kan., is revoked.

Van Poole, G. M., major, detailed to represent the Medical Department of the Army at the fourth annual meeting of the Lake Michigan Sanitary Association, Chicago, Feb. 18, 1911.

Stark, Alexander N., major, granted leave of absence for one month and twenty days.

Dean, Elmer A., major, detailed to take the course of instruction at the Army Field Service School for Medical Officers, Fort Leavenworth, Kan.

Thearle, William H., lieut., ordered to proceed to Jefferson Barracks, Mo., for temporary duty, until the arrival at that post of Captain Guy V. Rukke, Medical Corps.

Thomason, Henry D., major, leave of absence extended ten days.

Medical Corps, U. S. Navy

Changes for the week ended Feb. 4, 1911.

Lando, M. E., P. A. surgeon, resignation accepted to take effect Jan. 31, 1911.

Garrison, H. A., P. A. surgeon, commissioned passed assistant surgeon from June 27, 1910

Holeman, C. J., P. A. surgeon, commissioned passed assistant surgeon from Sept. 21, 1910.

George, C. M., and Sheldon, L., Jr., P. A. surgeons, commissioned assistant surgeons from Dec. 24, 1910.

Elliott, M. S., surgeon, detached from command of the naval hospital, Washington, D. C., and ordered to the Naval Medical School, Washington, D. C., for course of instruction.

McLean, A. D., P. A. surgeon, ordered to duty in attendance on officers and their families on duty at Washington, D. C.

Strite, C. E., P. A. surgeon, ordered to the *Vermont* when discharged from treatment at the Naval Medical School Hospital, Washington, D. C.

Phelps, J. R., asst. surgeon, detached from the *Vermont* and ordered to the *Solace*.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Feb. 1, 1911.

Holt, John M., P. A. surgeon, reassigned to duty at Columbia River Quarantine Station, effective Sept. 14, 1910.

Smith, F. C., P. A. surgeon, reassigned to duty at Fort Stanton, N. Mex., effective Nov. 23, 1910, Jan. 27, 1911.

Delgado, J. M., A. A. surgeon, granted ten days' extension of leave of absence from Jan. 13, 1911, on account of sickness.

Townsend, F., A. A. surgeon, granted fourteen days' leave of absence from Jan. 28, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

SMALLEST MEDICAL FEES PAID BY LARGEST CORPORATIONS

By an Insurance Examiner

Five years ago the report of the New York legislative committee showing the methods of life-insurance companies produced a distinct shock to the public conscience. The next shock was to the medical conscience when the attempt was made to reduce the expense of insurance to the "oppressed" policy-holder and increase dividends to the "bloated bondholders" by reducing the fees of the medical examiner from $5 downward; a great deal was then said and written on the subject of medical examiners' fees, until the companies nearly all relented and, in most cases, restored the examination fees to the former low standard of $5.

There is, however, a phase of life-insurance examination with absurdly small fees, if they can be called fees at all, which has gone on without remonstrance from any source, so far as I know. This is all the more amazing because of the widespread cry of increased cost of living and the almost general insistence on increased wages in nearly all lines of service. Club contract, sick benefit and fraternal insurance examination fees have been rightly condemned by medical societies; but so-called industrial insurance, the worst economic invasion ever projected into the body politic of this country, secures examinations called "inspections" by doctors, for the munificent honorarium of 25 cents, "two dimes and a half, gentlemen, or a quarter of a dollar" per capita. These examinations require a visit to the home; inspection of hygienic, local and domestic environment; inspection of subject and antecedents, if there be any; witnessing the applicant's signature and certifying to his or her age; returning to office, copying and mailing the report to the home office—the company magnanimously furnishing the stamps and charging in the doctor's books—25 cents for the service. This by a medical graduate, a registered and licensed man, presumably in full possession of his faculties! Members of the hod-carriers' union would spurn such remuneration.

There is another form of examination, rarely demanded, for which 50 cents is paid; this is called an "examination" and also demands expert educated skill of a high degree. The booklet of instructions for either "inspection" or "examination" embraces thirty pages, and urges two-score specific topics on the examiner, requiring a finely educated visual and

tactile sense, as well as an innate perspicacity to complete properly; urinalysis is not required, but that is about the only lapse from a standard blank, and the examiner gets 50 cents!

Shades of Esculapius and John Hunter! And the cost of living soaring! A young man spends eight of his best years and as many thousand dollars to get a medical education, pass a state examination and pay for it; secure a county license and pay for this, often a municipal fee is demanded that he has to pay for; he has to equip himself with all the instruments of precision now required, at great cost, maintain an office and some means of transportation; be well housed and clothed—and he gets out of the insurance companies the sum of 25—rarely 50—cents, for expert work!

The subjects are not brought to the examiner; he must seek them at their homes at hours convenient to them, regardless of the examiner's other professional or social appointments. He must make calls in the remotest regions, in suburbs and factory district, since this kind of insurance appeals only to the ignorant classes, the submerged tenth, whose earnings are dissipated by the importunities of the conscienceless insurance solicitor and the instalment collection fiend. It is estimated that so-called industrial life-insurance collects the colossal aggregate of $150,000,000 annually, a sum double that taken from all the gold mines of the United States, Alaska and the Philippines in the year 1907.

It is only this so-called "inspection" and "examination" that places the transaction outside the class of "pools." The guileless doctor lends his time and skill to this work and helps to accumulate colossal fortunes for the promoters. Strangest of all it is that the great beam of justice has not struck this kind of machination, and that public conscience has allowed the exploitation of the unguarded and helpless poor to go on unhampered. Worse still is the prostitution of our profession to such ignoble ends and pauper pay; 25 cents for a medical "inspection" and 50 cents for an educated expert's medical "examination," time and travel expense all paid by the doctor! What has become of the spirit of our medical societies that remonstrance has not been made ere this? There are very small things that need attention as well as the larger ones of state boards of health and medical national educational commissions.

The objection to industrial insurance, as conducted in the United States, is that it has been developed and managed by private individuals for private profit rather than for the laboring man and his dependents. One result is the physician who makes the necessary examinations is "sweated" for the benefit of the middleman or promoter, who to increase his own profits reduces the cost of operation to the minimum. Industrial insurance is, in many cases, the only way in which the laboring man can provide, during the period of activity, against disabling accidents and sickness. The premiums which can be paid in this form of insurance are necessarily low and must be collected on the instalment plan. In the absence of some such provision against disability, the only recourse left to the laborer or his family is charity, either public or private. The importance of industrial insurance has been generally recognized in Europe, especially in Germany, where it has been made compulsory by the state, as a precaution against poverty-stricken decrepitude or old age on the part of the laborer and overburdened charity relief on the part of the state. Industrial insurance, provided and safeguarded by the state, is a guarantee to the laborer and his family against want, and to the community against a crushing burden of pauperism and dependency. As conducted in this country, by private corporations, it is an exploitation of the workingman on the one hand and of the physician on the other, for the benefit of the middleman, the promoter. The ridiculously low "fees" paid by these companies should be spurned by any self-respecting physician and condemned by medical organizations everywhere. Properly organized and conducted industrial insurance should be encouraged, but only on condition that the fees paid for professional services are commensurate with the value of the services rendered. Industrial insurance should be for the benefit of the laborer and the relief of society. There is no reason why it should be built up at the expense of the medical profession.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—Second Weekly Meeting

INFECTIONS OCCURRING IN SURGICAL DISEASES AND CONDITIONS

TOXEMIA, SEPTICEMIA AND PYEMIA:* Definition of each, discussing their relations to each other.

ETIOLOGY

TOXEMIA: 1. From acute infectious diseases. 2. Those demanding surgical interference; sapremia. Pathogenic and toxicogenic bacteria. Bacterial poisons, ptomains and toxins. Microorganisms usually found in surgical lesions, producing toxemia.

SEPTICEMIA AND PYEMIA: Septicemia from (1) local infection, pneumonia, typhoid, puerperal fever, fracture, traumatism, etc.; (2) cryptogenetic septicemia. Pyemia, dependent on antecedent septicemia.

PATHOLOGY

TOXEMIA AND SEPTICEMIA: Similarity of pathologic changes occurring in toxemia and septicemia. Histologic changes in tissues, effect of toxins. Microscopic changes in viscera. Gross changes in liver, spleen, kidneys, heart and blood-vessels, mucous membranes.

PYEMIA: Primary changes. Methods of entrance of bacteria into blood-stream. Factors governing site of secondary localization. Usual location of abscesses. Secondary changes.

* Pearce: Osler's Modern Medicine, ii, 647.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 14-15. Sec., Dr. Charles A. Tuttle; Homeopathic, Grace Hospital, New Haven, March 14. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, March 14. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

ILLINOIS: Coliseum Annex, Chicago, March 2-4. Sec., Dr. James A. Egan, Springfield.

IOWA: State House, Des Moines, February 14-16. Sec., Dr. Guilford H. Sumner.

KANSAS: Topeka, February 14. Sec., Dr. H. A. Dykes, Lebanon.

MAINE: Portland, March 14-15. Sec., Dr. F. W. Searle, 806 Congress Street.

MASSACHUSETTS: State House, Boston, March 14-16. Sec., Dr. Edwin B. Harvey, Room 159, State House.

WYOMING: Laramie, March 7-9. Sec., Dr. J. B. Tyrrell.

The Complete Physician

An address on the subject "The Complete Physician" was given by Dr. J. George Adami, professor of pathology at McGill University, at the opening of the School of Medicine of the University of Toronto.[1] He shows that the student cannot be expected to learn all there is to know during his brief four-year or five-year medical course. In fact, the physician's entire life is devoted to learning new facts and new methods. It is the student's duty to find out *how* to proceed; he must learn the common ailments; he must know how to use modern methods of diagnosis and must understand the rational treatment of diseases, whether he is to apply that treatment himself or refer the patient to others.

To obtain this knowledge requires a training in hospitals and dispensaries, in contact with actual living patients. But he needs more than his unaided senses to gain the most from his contact with patients. He needs to understand instruments of precision, which requires a knowledge of physics; he must know the composition of body fluids and the action of drugs, which requires a knowledge of chemistry; he must understand the principles governing living matter, which requires an acquaintance with biology. A knowledge of anatomy is particularly needed. A mental picture of the viscera often conveys reasons for certain disturbances; and of course the

1. Saskatchewan Med. Jour., October, 1910.

knowledge of the parts of the body is indispensable for the surgeon. Infectious diseases cannot be understood without a knowledge of bacteriology. Of great importance also is the autopsy, by which the relation of outward signs to the actual pathologic condition is ascertained.

Years of preparation, therefore, are needed before the student comes to the actual study of patients. This preparation requires one or two years of collegiate work and two or three years of medical study in laboratories. Then come the two years in advanced study in dispensaries and hospitals, and, finally, a year or more of intern work.

Dr. Adami lays particular stress on the development by the student of a personal sympathy for the patient. Important as is all the other training and skill in the diagnosis and treatment of disease, he counts this all for naught without the sympathetic study of humanity and the capacity to enter into their lives:

"After all, it is the old, old lesson that I have to preach to you. Though you know all the 'ologies and practice all the modern methods of diagnosis and treatment, though you know Latin, German, French, Italian, and speak with tongues of men and of angels and have not charity—do not let your hearts go out to your fellows—you are become as sounding brass or as a tinkling cymbal."

He declares that the main strength of British medical education is that it has realized the need of this sympathetic relationship and the weakness of the German medicine that it has too largely neglected it. He believes that the chief benefit from the addition of two collegiate years to the preliminary training is that, by the larger contact with his fellows, the student will develop this study of humanity. This experience will be largely aided by the study of the actual palpitating patient at the bedside. Lastly, it will be more completely developed in the fifth year spent in a hospital.

California August Report

Dr. Charles L. Tisdale, secretary of the California State Board of Medical Examiners, reports the written examination held at San Francisco, August 2-5, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 151, of whom 121 passed, including 22 osteopaths, and 30 failed, including 9 osteopaths. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Oakland College of Medicine and Surgery	(1910)	83.4, 86.4, 86.5.
University of Southern California	(1909)	82.1
College of Physicians and Surgeons, San Francisco	(1909)	76.9, 77.6; (1910) 76.8, 78.9, 84.7.
Cooper Medical College	(1909)	76.9; (1910) 75.9, 77, 79.5, 80.1, 80.3, 81.5, 81.9, 82.5, 85, 85.4, 85.4, 87.5.
California Medical College, Eclectic	(1905)	79.3
University of California	(1908)	77.9; (1910) 79.8, 83.5, 85.7, 87.2, 87.3, 89.6.
College of Physicians and Surgeons, Los Angeles	(1909)	78.2; (1910) 77.9, 80.4, 82.3, 82.7, 86.4, 86.6, 87.4, 90.2.
Hahnemann Medical College of the Pacific	(1910)	85.8
College of Physicians and Surgeons, Chicago	(1901)	83.2; (1903) 79.8; (1906) 78.9; (1908) 88.2.
American Medical Missionary College	(1900)	88.6; (1903) 82.3, 85.5; (1906) 89.8, 90.4.
Northwestern University Medical School	(1908)	83.6, 84.8; (1909) 83.1; (1910) 86.8.
Rush Medical College	(1895)	80.5; (1909) 82.2, 92.4
Louisville Medical College	(1897)	78.8; (1905) 81.1
Hospital College of Medicine, Louisville	(1902)	77.1
University of Iowa, College of Medicine	(1906)	78
Tulane University of Louisiana	(1908)	75.5
Medical School of Maine	(1889)	87
University of Maryland	(1893)	83.4; (1895) 84.6
Johns Hopkins University Medical School	(1908)	83.9, 89.9; (1910) 87.1, 84.6.
Harvard Medical School	(1907)	85.7
University of Michigan, College of Med. and Surg.	(1909)	80.9
Detroit College of Medicine	(1896)	88.1
University of Minnesota, Homeopathic Department	(1908)	79.9
University of Minnesota, College of Medicine and Surgery	(1905)	77.2; (1909) 80.6.
St. Louis University	(1906)	85.2; (1910) 80.3
Kansas City Medical College	(1891)	77
Creighton Medical College	(1906)	80.5
Columbia University, College of Physicians and Surgeons	(1905)	81.7; (1909) 82.8.
New York Homeopathic Med. College and Hospital	(1906)	80
University and Bellevue Hospital Medical College	(1910)	85
Bellevue Hospital Medical College	(1893)	84.3
Long Island College Hospital	(1892)	88.8
Ohio Medical University	(1903)	77.4
University of Oregon	(1908)	75.8
Hahnemann Medical Coll. and Hosp., Philadelphia	(1909)	77.8
Jefferson Medical College	(1910)	88.3
University of Pennsylvania	(1904)	82.8
Medical College of South Carolina	(1903) 84.4; (1910)	82.9
Vanderbilt University	(1906) 84.1; (1910)	84.6
McGill University, Quebec	(1910)	75
Western University, London Ontario	(1906)	82.7
University of Edinburgh, Scotland	(1909)	92.9
University of Finland, Helsingfors	(1910)	83.1
University of Turin, Italy	(1902)	86.7
Durham College of Medicine, England	(1910)	78.5

FAILED

Hahnemann Medical College of the Pacific	(1909)	71.6
College of Physicians and Surgeons, San Francisco	(1903)	71.9; (1907) 51.6, 72.7; (1910) 69.5.
College of Physicians and Surgeons, Los Angeles	(1906)	69.2
Cooper Medical College	(1910)	64, 72.1
California Medical College, Eclectic	(1910)	72.4
Chicago College of Medicine and Surgery	(1910)	70.5
Indiana Medical College	(1903)	72.9
University of Louisville	(1892)	70.6
Kentucky School of Medicine	(1906)	61.7
Hamline University	(1907)	72.4
American Medical College, St. Louis	(1898)	43.9
University Medical College, Kansas City	(1905)	69.4
Syracuse University	(1903)	72.1
Cleveland Homeopathic Medical College (1892)	55; (1903)	72
Jefferson Medical College	(1884)	76.5
University of Toronto, Ontario	(1903)	73.2

* Fell below 60 per cent. in one or more branches.

The following questions were asked:

ANATOMY

[Answer ten questions only]

1. Name the visceral contents of the middle epigastric region. 2. Describe the changes that take place in the vascular system at birth. 3. Draw diagram showing relationship of stomach, spleen, pancreas and kidneys to the back. 4. Name the uses and supports of the arch of the foot. 5. Give the boundaries of the axilla and name its contents. 6. What are the anatomic conditions that minimize the effects of violence on the skull? 7. Describe the course of the brachial artery. At what point may it be most easily compressed? 8. Give the relations of the prostate gland. 9. Make drawing of the shoulder sufficient to show the relation of the bony points. 10. Give the sensory and motor distribution of the median nerve. 11. Give the relations of the abdominal aorta. 12. Name the chief varieties of joints and give their subdivision with an example of each of the latter.

PATHOLOGY

[Answer eight of the written questions and identify four slides]

1. What blood changes are found in simple anemia? And describe the general or systemic effects if this condition is long continued. 2. Give the pathology of chorea. 3. Describe the macroscopic and microscopic characteristics which distinguish malignant tumors or growths from those of a benign or non-malignant type. 4. Describe fully the effects and changes which result from an excess of secretion of the thyroid gland, and the effects and changes resulting from a deficiency of the thyroid secretion. 5. Describe the pathologic changes which take place as a result of chronic lead poisoning. 6. What organism is responsible for tropical or amebic dysentery? What part of the intestinal tract is principally affected, and describe the changes resulting from the disease? 7. What are the principal causes of the ordinary summer diarrhea or dysentery of children, and describe the condition of the intestinal tract usually present? 8. What conditions most frequently give rise to cerebral thrombosis; what part of the brain is most likely to be affected, and what blood-vessels most likely to be involved, and why? 9. In imperfect closure or insufficiency of the mitral valve of the heart describe, in the order of their occurrence, the changes which take place in the heart and blood-vessels and the resulting pathologic condition in other parts of the body. 10. Describe the condition of the lung in cases of delayed resolution in croupous or lobular pneumonia, and what is the usual ultimate result if not relieved. 11. Identify two slides. 12. Identify two slides.

HISTOLOGY

[Answer ten questions only]

1. Make a diagram of a transverse section of the spinal cord showing white and gray matter, position of motor and sensory roots of spinal nerves, central canal and principal motor cells. 2. Describe the muscular coats of the esophagus. 3. Name the various forms of encapsulated sensory nerve-endings. 4. Describe minutely a medullated nerve fiber. 5. Describe the blood-supply of a hepatic lobule. 6. Describe a renal Malpighian corpuscle. Make drawing. 7. Name two cells typical of the human cerebellum. Give short description of each and make drawings. 8. Tell how you would distinguish a transverse section of the duodenum from a longitudinal section of the transverse colon. Make diagram. 9. Name the blastodermic layers from which the following tissues and organs are formed: (*a*) enamel of the teeth; (*b*) finger-nails; (*c*) urinary bladder; (*d*) pancreas; (*e*) lymph nodules of the intestines. 10. What is meant by the following terms: (*a*) Haversian canal; (*b*) osteoblasts; (*c*) osteoclasts; (*d*) lymphocytes; (*e*) eosinophils? 11. Examination of slides. 12. Examination of slides.

CHEMISTRY

[Answer ten questions only]

1. Define alkaloid. Name five alkaloids commonly used in medicine. 2. How much of the following ingredients will be found in the urine of an adult who passes 1,500 c.c. of normal urine daily: (*a*) urea, (*b*) chlorids, (*c*) phosphates? 3. What is a chemical symbol? Give the symbols of ten elements. 4. Give the composition of properties of and tests for sulphuretted hydrogen, and mention any chemical agencies by which its offensive odor may be

removed. 5. How is formaldehyd prepared? In what forms is it used as a disinfectant? 6. What is the composition of butter? Describe a good method of determining the volatile fatty acids in a sample. How does this assist you in deciding the question of adulterations? 7. What are the respective alcoholic strengths of beer, claret, sherry, gin, whisky? 8. Name the solids contained in normal blood. What proportions do the solids bear to the water in the blood? 9. Give the composition of starch, cane-sugar, grape-sugar and sugar of milk. Calculate the number of grains of carbon present in 1,000 grains of starch and cane-sugar, respectively. 10. What is ozone? Is there any real evidence of its presence in the atmospheric air? What other substances give similar actions? Has its presence or absence any sanitary importance? 11. How would you recognize each of the following gases, chemically, when mixed with air: Carbon monoxid, sulphur dioxid, sulphuretted hydrogen and hydrochloric acid? 12. How would you detect the presence of tartaric acid in lemon or lime juice?

PHYSIOLOGY

[Answer ten questions only]

1. Describe the phenomenon of muscular tone. 2. What is the chemical theory of fatigue? 3. What is the difference in the paralysis from injury to the spinal and the pyramidal neurons, respectively? 4. Name four sensory qualities of cutaneous nerves and tell how they are distributed in the skin. 5. What is the function of the Eustachian tube? 6. What normal conditions produce a variation in the number of red-blood corpuscles? 7. Mention four factors concerned in producing normal pressure and velocity of the blood. 8. What physical changes take place in respired air? 9. What conditions affect the action of ptyalin? 10. What is the general physiologic importance of bile? 11. What is the physiologic rôle of the adrenals? 12. Mention four ways by which the body loses its heat.

BACTERIOLOGY

[Answer ten questions only]

1. Explain how diphtheria antitoxin is made. 2. Give two methods of producing immunity (active). 3. What is a bacterial vaccine? How does it act? 4. Give positive tests distinguishing gonococci from other cocci. 5. Describe in detail a method of staining tubercle bacilli. 6. Name five pus-producing organisms. 7. Explain how pus is produced by germs. 8. Give two methods by which *Bacillus typhosus* may be distinguished from *Bacillus coli communis*. 9. Show by drawing appearance under the microscope of the following: *Spirochæta pallida, Bacillus diphtheriæ, Bacillus pestis, Bacillus tetani, Amœba coli.* 10. Describe cause and usual method of entry of epidemic cerebrospinal meningitis. 11. What is meant by Widal's reaction? Describe two methods of doing it. 12. Describe the different methods by which bacteria propagate. Give three.

OBSTETRICS

[Answer ten questions only]

1. Between what points are the four measurements taken in external pelvimetry? 2. How is the pelvic inlet bounded? 3. What are the anomalies calling for cephalic version? 4. In mammary abscesses what is the usual source of infection and how can it be prevented? 5. Give the etiology and diagnosis of phlegmasia alba dolens in the puerperal state. 6. In breach presentations, occiput anterior, in what position would you place the body of the child in the application of forceps to the after-coming head? 7. Describe hyperemesis and its dangers. 8. Give the symptoms and diagnosis of puerperal septicemia? 9. What are the causes of secondary post-partum hemorrhage? 10. Describe the "Braxton-Hicks" method of manipulation in placenta previa. 11. What are the causes and dangers of precipitate labor? 12. Describe polyhydramnos and its dangers.

GYNECOLOGY

[Answer ten questions only]

1. What is the menopause? Its physiologic establishment? What are the especial dangers of this period? 2. What are the causes of hemorrhage of the non-pregnant uterus, other than menstruation? 3. Diagnosis of uterine fibroids. What pathological change often takes place? Prognosis. 4. Acute pelvic peritonitis, causes and symptoms. 5. What is the differential diagnosis between ascites and ovarian cyst? 6. What is amenorrhea, its causes and dangers? 7. What are the symptoms and management of imperforate hymen, with prolonged retention of secretion? 8. What is chronic endometritis, etiology and symptoms? 9. Early diagnosis of cancer of the uterus. What are operable cases? At what period in a woman's life is it most liable to occur? 10. Urethral caruncle, diagnosis and symptoms. 11. Hematoma of the vulva, symptoms and diagnosis. 12. Specific vaginitis, symptoms, diagnosis, and complications.

GENERAL DIAGNOSIS

1. Give the causes of enlargement of the liver and describe atrophic cirrhosis of the liver in detail. 2. Differentiate tetanus from hydrophobia. 3. Name the different varieties of casts found in the urine and what is the significance of each. 4. Give the symptoms of multiple sclerosis. 5. Give the symptoms and signs on which you would diagnose a typhoid intestinal perforation. 6. Differentiate variola from varicella. 7. Describe an attack of acute appendicitis. 8. Describe an attack of acute pericarditis. 9. Give the causes and physical signs of ascites. 10. Differentiate iritis from glaucoma. 11. Give the relations of the abdominal aorta; diagnose a fracture through the neck of the femur. 12. Describe the symptomatic development of a severe hemorrhage which presses on the upper one-half of the fissure of Rolando following a blow on the head.

HYGIENE

[Answer ten questions only]

1. What deleterious gases accumulate in improperly ventilated rooms? 2. What diseases may be propagated by drinking water? How may the impurities in water be detected? 3. Name four methods used in communities for the disposal of sewage and describe one method. 4. Outline a rational method by which the condition of milk supplied to a community might be materially improved. 5. Name four diseases which may be transmitted by milk. 6. Name four diseases that may be transmitted by the eating of diseased meat or fish. 7. What is the germ theory of disease? What laws were made to prove this theory? 8. What is an endemic disease? An epidemic disease? A miasmatic disease? A sporadic disease? 9. What are deodorants? Antiseptics? Germicides? 10. With what is ground coffee said to be frequently adulterated, and how may the adulterants be detected? 11. With what is vinegar sometimes adulterated, and how would you test for the adulterant? 12. How may the presence of lard in olive oil be detected?

Pennsylvania December Reports

The Medical Council of Pennsylvania reports the written examinations held at Philadelphia and Harrisburg, Dec. 14-17, 1910. The number of subjects examined in was 7; percentage required to pass, 75.

At the examination held by the State Medical Society of Pennsylvania, at Philadelphia, the total number of candidates examined was 95, of whom 79 passed and 16 failed. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
University of Colorado	(1909)	1
Howard University, Washington, D. C.	(1907) (1909)	2
Georgetown University	(1910)	3
Atlanta School of Medicine	(1910)	1
Indiana University	(1910)	1
Kentucky University	(1906)	1
University of Louisville	(1910)	1
Johns Hopkins University	(1909)	1
Baltimore Medical College	(1910)	4
University of Maryland	(1909) (6, 1910)	7
College of Physicians and Surgeons, Baltimore	(1910)	4
Detroit College of Medicine	(1910)	1
Syracuse University	(1910)	1
Albany Medical College	(1905)	1
Columbia University, College of Physicians and Surgeons	(1906) (1907) (1909)	3
Temple University	(1910)	4
Jefferson Medical College (1902) (1906) (2, 1909)	(9, 1910)	13
University of Pittsburg	(1909) (3, 1910)	4
University of Pennsylvania (1895) (1907) (2, 1908); (1909)	(5, 1910)	10
Medico-Chirurgical Coll., Philadelphia	(1909) (6, 1910	7
Woman's Medical College of Pennsylvania (2, 1909)	(2, 1910)	4
University of Vermont	(1910)	1
McGill University, Montreal	(1907)	1
University of Toronto, Ontario	(1902) (1909)	2
Queen's University, Kingston, Ontario	(1910)	1

FAILED College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1907)	70.2
University of Louisville	(1910)	72.7
Maryland Medical College (1910) 23.7, 63.3, 64.5, 70.4.		
Baltimore Medical College	(1910)	65.5
University of Maryland	(1910)	72.4
University Medical College, Kansas City	(1903)	46.8
Leonard Medical School	(1909)	73.4
Medico-Chirurgical College, Philadelphia (1909) 73.9; (1910) 72.6.		61,
University of Pittsburg	(1910)	72.5
University of Pennsylvania	(1910)*	....
Meharry Medical College	(1910)	68.5

* Expelled from examination.

At the examination held by the Homeopathic Medical Society at Philadelphia, the total number of candidates examined was 5, of whom 4 passed and 1 failed. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
Cleveland Homeopathic Medical College	(1910)	1
Hahnemann Medical College and Hospital, Philadelphia	(1904) (2, 1910)	3

FAILED College	Year Grad.	Per Cent.
Hahnemann Medical College and Hospital, Chicago.	(1909)	61.4

At the examination held by the Eclectic Medical Society at Harrisburg, the total number of candidates examined was 12, of whom 11 passed and 1 failed. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
Maryland Medical College	(1907) (3, 1910)	4
Atlantic Medical College	(1908)	1
Baltimore University	(1905)	1
Eclectic Medical University, Kansas City	(1910)	1
St. Louis College of Physicians and Surgeons	(1906)	1
Medico-Chirurgical College, Philadelphia	(1910)	2
Temple University	(1910)	1

FAILED College	Year Grad.	Per Cent.
Baltimore University	(1903)	72.1

Book Notices

A MANUAL OF PHARMACY FOR PHYSICIANS. By M. F. DeLorme, M.D., Lecturer on Pharmacy and Pharmacology, Long Island College Hospital, New York. Second Edition. Cloth. Price, $1.25 net. Pp. 199, with 19 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

The author in this book has made the laudable effort "to provide a small concise text-book, presenting only those facts of the subject having interest for the medical practitioner." He has paid special attention to prescription Latin. One of the reasons assigned by most authors for the use of Latin in prescriptions is that "Latin is a dead language and not subject to change." Our author, however, evidently believes that it can be improved by changing its time-honored rules. With the intention of making it so simple that any student by learning a few improved rules can write correct Latin, he tells his readers that all Latin nouns ending in "a" form their genitive in "æ," that adjectives end in "us" and form a genitive in "i" and that, as the genitive is the only case in which the physician is interested, in the text of Part II all nouns will be put in the genitive case. It is interesting to see how these simple rules work. The author is iconoclastic enough to apply them to the utter demolition of the ancient grammar. For instance, we learn that the genitive of "Cataplasma" is "cataplasmæ" (old form "cataplasmatis"), that the prescription term for "distilled water" is "aquæ destillati," that for "monobromated camphor" we should write "camphoræ monobromati." Other examples are "cretæ camphorati," "tincturæ valerianæ ammoniati," etc. While the author admits that, theoretically, other cases may be used in writing a prescription, "as in prescribing an official pill, when the accusative case is employed," he considers that the "almost universal practice of abbreviating the noun 'pilulæ' (pil.) makes this exception of small practical moment and justifies its dismissal." Accordingly, the accusative disappears and we read "Divide in pilulæ no. x," "Div. in capsulæ no. iv." The ablative is no longer of use. So the author allows "cum" to govern the genitive: "Pulveris Potassii Bromidi Effervescens cum Caffeinæ N. F." In this case, zeal in carrying out his scheme caused the author to forget the genitive of "effervescens," which is not provided for by the simplified rules. But, strange to say, he writes "℞ Carbo animalis," although he has informed his readers a few pages before that "carbo" has a special genitive "carbonis."

The effort to put all nouns in the genitive imposes too great a burden on one devoted to simplification, and hence the student finds a jumble of nominatives and genitives, plurals and singulars, with an occasional instance in which, following the custom of older writers, the author has allowed the accusative or ablative to appear in strict accordance with grammatical rules. The lesson from this seems to be that we should either learn to write Latin correctly or dodge the difficulty by cutting off the endings in all cases. When an author and teacher cannot produce a set of fifteen typical prescriptions without 40 per cent. of them containing more or less serious errors, what can be expected of a student ignorant of Latin who tries to follow his directions?

The influence of such a book is vicious.

BIER'S TEXT-BOOK OF HYPEREMIA AS APPLIED IN MEDICINE AND SURGERY. By Prof. Dr. August Bier, of Berlin. Only authorized translation from the sixth German revised edition by Dr. Gustavus M. Blech, Professor of Clinical Surgery, Illinois Medical College. Cloth. Price, $4. Pp. 439, with 39 illustrations. New York: Rebman Company, 1910.

This is a fascinating work of some 400 pages. Once having begun, one is tempted to read every word and then reread many sections, so earnestly and convincingly has the writer presented his topic to his readers. The text does not lend itself well to abstracting; it must be taken as a whole to be properly appreciated.

While the list of conditions treated and the benefits obtained at first appear rather appalling and arouse the most natural medical emotion of prejudice against something different, yet a careful survey of the author's discussion and skilful employment constantly tends to allay the natural bias and to bring out the reasonableness of the procedure in the conditions to which it is adapted. The chapters on theory are interesting and instructive, reminding one, in their character and clearness, of Adami's charming little volume on "Inflammation." Bier's experience, like that of many others, emphasizes the fact that the more fundamental a truth and the broader its application, the greater is the difficulty in getting its general acceptance.

It is difficult, however, for us to accept many of the practical applications in conditions that we are wont to treat otherwise and we still remain in the critical attitude of wanting "to be shown." For instance, in the treatment of tuberculous joints Bier says, "I now declare it to be the best conservative agent at our command, which, with the least risk, simply and cheaply achieves results, especially as far as the function of the diseased joints is concerned, to which none of the other methods of treatment can even approximately approach. It must be added that at the same time it is the most agreeable of them all because it removes the pain from the patient without causing him new ones, in addition to leaving him the most perfect use of his limb." In concluding his work, he says, "I believe that the practical application represents the most general method of cure which exists, for I know of no other remedy which can be successfully employed in so great a variety of diseases."

The book is of convenient size, printed with clear type on good paper, and the translation well worthy of the text.

CLINICAL COMMENTARIES DEDUCED FROM THE MORPHOLOGY OF THE HUMAN BODY. By Prof. Achille De-Giovanni, Director of the General Medical Clinic, University of Padua. Translated from the second Italian Edition by John Joseph Eyre, M.R.C.P., L.R.C.S.I., D.P.H., Cambridge. Cloth. Price, $4.50. Pp. 436, with illustrations. New York: Rebman Company, 1910.

The title does not convey a clear idea of the subject-matter of this work, for it deals not with the form and structure of the human body as such, but rather with the relations which exist between the special morphology of the individual and his particular morbidities. The author assumes that modern morphology dictates the maxim that "function creates the organ" and as a natural consequence of this that "function reveals the anatomic conditions of the organ." He then formulates two principles expressed as follows:

1. "The cause of the special morbidity of organisms resides in their special morphology."

2. "The same principle which explains the formation of the organs, of the organisms and their function, explains the anomalies of form and of function that the organisms present during the periods of life."

The first part of the book is devoted to an attempt to justify the above principles. The second is more concrete and practical; in it the author elaborates his system of measurements of the body, based on which he subdivides individuals into three principal groups or classes, which he calls morphologic combinations. Each morphologic combination is supposed to exhibit certain morbidities, but there are almost innumerable varieties of each of the three principal combinations.

The author is given too much to theorizing, and, as is usual in such cases, his ideas are frequently clothed in such a superfluity of words as at times to defy analysis and thus to be meaningless. Possibly the translator may be responsible occasionally for a small part of this obscurity by a too literal translation. Yet, notwithstanding these numerous defects, a careful perusal of the book cannot fail to convince the reader that the author is possessed of an idea which contains more than a germ of truth and which is capable of much development by further observation and study.

CLINICAL PATHOLOGY IN PRACTICE. With a Short Account of Vaccine-Therapy. By Thomas J. Horder, M.D., Medical Registrar and Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital. Cloth. Price, $3. Pp. 216, with 6 illustrations. New York: Oxford University Press, 1910.

This work takes up the various diagnostic measures of clinical pathology. An account is given of the proper technic for securing materials; but the laboratory procedures used in the examination are intentionally omitted. The author discusses the conditions in which such measures are advisable, and the interpretation of the results obtained with them;

so that, unlike most works on clinical pathology, this is a guide, not for the laboratory worker, but for the clinician who may wish to enlist the aid of laboratory investigation. Inasmuch as many of these measures are of recent adoption, and as instruction along these lines is frequently deficient even in our better medical colleges, such a work can readily prove of value both to the older general practitioner and to his younger colleague. An introductory chapter warns against a too enthusiastic reception of the newer laboratory methods, which may lead to a neglect of physical diagnosis; and the same well-founded conservatism prevails throughout the work. In some instances there occur brief theoretical discussions of certain measures. These, particularly in the case of the Wassermann reaction, are admirably lucid. In the chapters on vaccine therapy the writer limits himself to his own clinical experience. Although brief, these chapters sum up the methods and the present status of this line of treatment very adequately.

AMERICAN PRACTICE OF SURGERY. A Complete System of the Science and Art of Surgery, by Representative Surgeons of the United States and Canada. Edited by Joseph D. Bryant, M.D., and Albert H. Buck, M.D. Complete in Eight Volumes. Volume VII. Cloth. Price, $7. Pp. 961, with 396 illustrations. New York: William Wood & Co., 1910.

The seventh volume of this work is devoted to a continuation of regional surgery. In it are discussed the surgical diseases of the pelvic and gluteal region, of the extremities and of the abdominal wall; the diagnosis of abdominal tumors; abdominal section; surgery of the heart and blood-vessels, the stomach, esophagus and diaphragm; acute infectious and tuberculous peritonitis; hernia; diseases of the vermiform appendix, intestines, omentum and mesentery and of the anus and rectum. The so-called big subjects are not always the most important ones, but the big subjects in this volume happen to be very important because of their great frequency. Appendicitis and peritonitis in some of the forms are the daily companions of every general practitioner, as well as of every surgeon. The subject of the treatment of these conditions is handled in a very sensible and judicious manner, by one of much experience and rare judgment, whose untimely death was deeply lamented by all. Concerning the prognosis in tuberculous peritonitis, the author—very justly, we think—presents a more hopeful view than is found expressed in some recent articles. The volume as a whole is a credit to this excellent system.

ACUTE INTESTINAL TOXEMIA IN INFANTS. An Experimental Investigation of the Etiology and Pathology of Epidemic or Summer Diarrhea. By Ralph Vincent, M.D., Member of the Royal College of Physicians, London. An Address Delivered Before the Glasgow Obstetrical and Gynecologic Society on Nov. 23, 1910. Cloth. Price, 3 shillings 6 pence net. Pp. 83, with 17 illustrations. London: Baillière, Tindall & Cox, 8 Henrietta St., Covent Garden, 1911.

The author fed a great many kittens on various modifications of boiled milk. The result was invariably an early fatal toxemia resembling the toxemia in infants. From this he deduces the conclusion that the condition, both in kittens and infants, is due to boiled milk. He reasons that in the process of boiling the lactic-acid-producing bacteria are killed, while the spores of the common saprophytes are unharmed. He maintains, further, that the presence of lactic acid prevents the growth of the saprophytes; that its absence permits them to grow and elaborate, from the proteids of the food, their toxins, in which he sees the active cause of these toxemias. He logically concludes: "The dirtier the milk, the more important is it that it should not be cooked." The evidence presented by the author is hardly convincing.

HEREDITARY CHARACTERS AND THEIR MODES OF TRANSMISSION. By Charles E. Walker, M.Sc., Director of Research in the Glasgow Cancer Hospital. Cloth. Price, $2.40. Pp. 239, with 21 illustrations. New York: Longmans, Green & Co., 1910.

Recent discoveries and experimental work on cells are applied to problems in heredity with a view to harmonizing the results of the Mendelian experiments with the observations of the biometricians. This is done by showing that some parts of the cells involved in fertilization, that is, in the production of the new individual, are distributed in an alternative manner, while other parts simply divide in bulk. As a fresh hypothesis regarding the problem of sex, Walker suggests that there are two classes of characters, the individual and the racial, which behave in different manner in regard to inheritance. To each he attributes a distinct mode of transmission. He regards sex as a character which has been kept in the category of individual characters and has been prevented from becoming a racial character by the action of natural selection, in spite of the fact that it is far more intense than a great many of the racial characters. Secondary sexual characters are regarded as racial characters or dependent for their appearance on the presence of one or the other kind of sexual cells—in fact, on the primary sexual character. The book is well written and presents this entire subject fairly and well.

SALVARSAN OR 606 (DIOXY-DIAMINO-ARSENOBENZOL). Its Chemistry, Pharmacy and Therapeutics. By W. Harrison Martindale, Ph.D., Marburg, and W. Wynn Westcott, M.B., London, H. M. Coroner for North-East London. Cloth. Price, $1.50. Pp. 77, with illustrations. New York: Paul B. Hoeber, 69 E. Fifty-Ninth St.

The time has hardly arrived for a disinterested estimate of salvarsan; consequently we must not expect very critical treatment from a work like the present. The authors have attempted to abstract and arrange the available literature, so as to give a good account of the chemistry, pharmacy and therapeutic uses, including administration, of the new remedy. Some carelessness in style is to be regretted. Thus perhaps Hoppe and Wittneben have some occasion for offense at their apparent inclusion among the insane in the following sentence: "Dogs were first injected, subsequently Alt's two assistants, Hoppe and Wittneben, injected themselves with 0.1 gm. each and thus the treatment was extended to trials on lunatics (70)." At the close the authors give some personal communications which they have received and which contain timely warnings as to the danger of hasty conclusions from the results of the early trials of the remedy. The book terminates with a bibliography containing 130 references with partial abstracts of the papers.

EINFÜHRUNG IN DIE MODERNE KINDERHEILKUNDE. Ein Lehrbuch für Studierende und Aerzte. Von Dr. B. Salge, Professor der Kinderheilkunde in Freiburg i. B. Second Edition. Cloth. Price, 9 marks. Pp. 384, with 15 illustrations. Berlin: Julius Springer, 1910.

Although brief—it contains only 379 pages exclusive of the index—this small text-book is a summary of most of the important work in pediatrics to date. Valuable from cover to cover, it is especially to be commended for its chapter on the artificial feeding of infants. For a book of its size, it elaborates thoroughly the latest German ideas of nutrition and their application to the problem of infant-feeding. In addition to the other methods of feeding, the theory and use of Finkelstein's *Eiweiss-Milch* is considered. The book is well arranged, is concise and can be recommended both to the student and to the practitioner. A translation of the chapter on infant-feeding would be of interest to the American physician, whose knowledge of the German ideas on this subject is, on the whole, extremely vague.

PRINCIPLES OF SURGERY. By N. Senn, M.D., late Professor of Surgery, University of Chicago. Fourth Edition thoroughly revised by E. J. Senn., M.D., and E. Friend, M.D., Instructor in Surgery in Rush Medical College. Price, $5 net. Cloth. Pp. 706, with 231 illustrations. Philadelphia: F. A. Davis Co., 1909.

In the preface, the editors, E. J. Senn and E. Friend, say "It would be rather presumptuous on our part to attempt to improve on the contents of the first, second and third editions of this volume which were made with the unerring accuracy characteristic of the master-mind of the author." The only additions that have been made in this edition are five or six pages dealing very briefly with the Bier method of treatment and with Wright's opsonic theory. Otherwise this edition corresponds practically in every way with the previous or third edition.

LECTURES ON COSMETIC TREATMENT. A Manual for Practitioners. By Dr. Edmund Saalfeld, of Berlin. Translated by J. F. Halls Dally, M.A., M.D., Physician to the St. Marylebone General Dispensary. Cloth. Price, $1.75. Pp. 186, with illustrations. New York: Paul B. Hoeber, 69 East Fifty-ninth Street, 1910.

This little book contains matter not found in works on dermatology, much of which will be useful to the general practitioner, as well as to the dermatologist or to the prac-

titioner who limits his work still further to the pathology of affections comprehended under the title of the book. Except for the suggestion of a great many proprietary preparations, it is a satisfactory and useful book.

A SHORT HANDBOOK OF COSMETICS. By Dr. Max Joseph, Berlin. Third Edition. Authorized English Translation. Cloth. Price, $1. Pp. 86. New York: E. B. Treat & Co., 1910.

This book does not enter into the pathology of affections of the skin, hair and nails, but simply describes their general care by means of hygiene, water, soaps, lotions, ointments, creams, paints, etc., giving formulas for many such preparations, many of which seem to have proprietary names. One receives the impression that this is a book for the laity rather than a guide to the general practitioner or specialist in this branch of dermatology.

Medicolegal

Validity of Statutes Forbidding Advertising for Patients and Special Ability to Treat or Cure Chronic and Incurable Diseases—Chronic and Incurable Defined—Consultation of Medical Works by Boards

The Supreme Court of Arkansas, on the appeal of the State Medical Board of the Arkansas Medical Society vs. McCrary (130 S. W. R. 544), a suit brought by the latter party to enjoin the board from taking action in the matter of revoking his license to practice medicine, reverses a decree granted him, and dismisses his complaint for want of equity. It does not agree with his contention that his license to practice medicine was a property right, the revocation of which was an exercise of judicial power, which could not be vested in any administrative board, but only in the courts, and that to assume to invest this power in the board was to deprive him of his property without due process of law, in violation of the state constitution.

But the most difficult question in the case to determine, the court says, was raised by the contention that subdivision d of section 8 of Act 219, of the Arkansas General Assembly, approved May 6, 1909, which authorizes the board to revoke the license of a physician for "publicly advertising special ability to treat or cure chronic and incurable diseases," is too vague and indefinite to be upheld and enforced. This has given the court the gravest concern, and, after due consideration, the court has decided to uphold the provision. The court's attention was not called to any case in which a statute of similar import has become the subject of judicial determination. Counsel for the complainant relied on cases where statutes authorizing the Board of Medical Examiners to revoke the certificate of a physician for making "grossly improbable statements," or for "unprofessional or dishonorable conduct," have been held void, as being unreasonable, too uncertain and indefinite. Hewitt vs. State Board of Medical Examiners, 148 Cal. 590; Matthews vs. Murphy, 23 Ky. Law Rep. 750; Czarra vs. Board of Medical Supervisors, 25 App. D. C. 443.

On the other hand, there are cases upholding statutes empowering boards to revoke the licenses of physicians, who are guilty of unprofessional and dishonorable conduct, and the licenses have been revoked or not, according to the proof made. State ex rel. Feller vs. Board of Medical Examiners, 34 Minn. 391; McComber vs. State Board of Health, 28 R. I. 3, and the case note to Hewitt vs. State Board of Medical Examiners, 7 Am. & Eng. Ann. Cas. 750, indicate that the weight of authority is to this effect. But this court need not decide that question; for it holds that the language of subdivision d in question is not too uncertain and indefinite to be upheld and enforced. In the case of Thompson vs. Van Lear, 77 Ark. 506, this court held that an act forbidding physicians and surgeons to solicit patients by paid agents was a valid exercise of the police power. For like reason, a statute forbidding a physician to advertise for patients in newspapers would be upheld; and, by analogy, a statute forbidding them to advertise their ability to treat and cure certain named diseases would be a valid exercise of the police power.

While the particular disease against which the prohibition of the statute is directed is not named, as was the case of Kennedy vs. State Board of Registration in Medicine, 145 Mich. 241, yet the words "chronic and incurable," when used with reference to diseases of the body, are not variable, but have a settled and generally accepted meaning. The word "chronic" is the antithesis of "acute," and a chronic and incurable disease is generally understood to be one of long standing, deep-rooted, obstinate, persistent, and unyielding to treatment. On this account those afflicted with such diseases become discouraged, and to an extent desperate, and more easily become the prey of conscienceless and unscrupulous practitioners in the medical profession. Such diseases are specifically named and discussed in standard medical works, and are known to all physicians, who may possess a sufficient knowledge of their profession to practice the art of healing, as chronic and incurable diseases. For the board to consult these standard medical works would not be to use them as evidence as contended by the complainant, but such act would be rather done as an aid to the memory and understanding of the members of the board. See State vs. Wilhite, 132 Iowa 226, 11 Am. & Eng. Ann. Cas. 180, and case note.

Criminal Abortion—Proper Cross-Examination of Expert

The Supreme Court of Arkansas affirms, in Davis vs. State (130 S.W.R. 547), a conviction under the statute of that state which provides that "It shall be unlawful for any one to administer or prescribe any medicine or drugs to any woman with child with intent to produce an abortion or premature delivery of any fetus before the period of quickening." It says that the felony thus created by the statute consists in the criminal act of administering or prescribing medicine to the woman with child with intent to produce an abortion. An abortion is the delivery or expulsion of the human fetus prematurely. There must be an intent to cause the abortion without lawful reason, and this must be accompanied by the unlawful act of administering the drug. In the case of State vs. Reed, 45 Ark. 333, it was held that under this statute the indictment must allege that the criminal act of administering the drug was done "before the period of quickening;" that is, the time when the overt act must be committed, and when that act is accompanied by the intent to produce an abortion, the crime is complete. The criminal intent consists in the design to cause an abortion, whether it shall result before or after the period of quickening. The intent becomes criminal by reason of the unlawful design for which the medicine is administered; and when the medicine is administered with this unlawful design, the act becomes criminal without the necessity of any other or further intent. The criminal act under this statute was complete when the drug was administered "before the period of quickening," for the purpose of causing an abortion; that is, with the intent of causing a delivery or expulsion of the human fetus prematurely. The indictment sufficiently made this charge, and it was not necessary also to charge that the drug was administered for the purpose of causing a delivery or expulsion of the human fetus before the period of quickening.

The court also holds that it was proper, on cross-examination, to ask a medical witness the question: "Assuming that a woman had been criminally intimate with a man for quite a while, and that you received information that she was in a family way and that an abortion was to be produced and you were called to see her, and found her suffering with a dilated os, these hemorrhages, and the breasts as mentioned, and if you found softening of the lower vagina with pains bearing down, in your opinion, what would be the matter with her? How would you diagnose that?" The court says that, if it should be considered that this question was propounded to the witness for the purpose of obtaining the opinion of a witness on a hypothetical question, it was competent because it was based on facts as proved before the jury. It was also competent for the reason that it consisted of the cross-examination of an opposing witness, and its purpose was to test his competency as an expert, as well as to affect his credibility as a witness.

Society Proceedings

COMING MEETINGS

American Medical Association: Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Association of American Medical Colleges, Chicago, February 27-28.
Medical Society of the Missouri Valley, St. Joseph, Mo., March 16-18.
Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb. 28.

CLEVELAND ACADEMY OF MEDICINE

Meeting held Dec. 16, 1910

The President, DR. CHARLES B. PARKER, in the Chair

Locomotor Ataxia and Result of Specific Treatment

DR. FRANK BILLINGS, Chicago: In 72 out of 100 selected cases of tabes, the disease occurring between the ages of 40 and 60, the youngest patient being 29 and the oldest 70, the patients admitted having had syphilis. A Wassermann was done on twelve others and was positive in ten. Sixty-nine of the seventy-two remembered the date of infection, and 66 per cent. had their first symptom in from ten to twenty years after luetic invasion. The early symptoms, in order of frequency, were the lightning pains, alteration of knee-jerk, absence of pupillary phenomenon, paresthesias, uncertainty of equilibrium and disturbance of bladder. The lightning pains were present in ninety-six of the patients and in two were present for years before other symptoms appeared. The Argyll-Robertson pupil was found in ninety-two, and in only one case was the pupillary reflex normal. Pupils were irregular in about half the cases, and at first examination the eyegrounds were normal in all but four. Knee-jerk was absent or weak in eighty-eight patients, and the Achilles reflex was also frequently changed. Bladder disturbance was one of the most notable early symptoms—in some cases there being pains of the character of crises. Disturbance or retention of urine occurred in sixty cases. Romberg's phenomenon was nearly always present. Visceral crises were present in twenty, and of these thirteen were in the form of gastric crises. It is interesting to note that nine of these had been operated on for calculous cholecystitis. I have kept in touch with forty-three of these patients; five are dead; two are dying of paresis; six are worse, while thirty-two are improved. Treatment consisted of deep intramuscular injections of mercury in all but three. The following injection was generally employed:

℞			gm. or c.c.
Hydrargyri chloridi corrosivi			
Phenolis	ää	gr. xv	1
Sodii chloridi		gr. xxx	2
Aquae destillatæ		ʒ ij	60

Ten or twenty minims were injected deeply into the gluteal muscle for twenty or twenty-five times, within a period of two months. The patient should be kept in bed during the injection treatment, as one can then give an injection every day or every second day. If the patient is up and about, he can take an injection only once or twice a week. Injection series may be repeated after three or four months, using potassium iodid, grains 10 to 20, three times a day, for two or three weeks in every month in the interim—beginning ten days or two weeks after the last injection. Tobacco and alcohol must be prohibited, and the patient should have massage, light exercise and Frenkel's reeducative movements.

DISCUSSION

DR. J. H. LICHTY: I am treating five tabetics, but in all of them the Wassermann is negative. I agree with Dr. Billings as to the use of hydrargyrum. Three of my patients have improved under the use of hydrargyrum-cyanid injections. One of these has had tabes for fourteen years, and until the past year has taken hydrargyrum continuously, by the mouth, without results. Lately I have been using it hypodermically, and the patient is improving.

DR. W. B. LAFFER: My results in the treatment of tabes have not been so good as Dr. Billings, as far as the use of hydrargyrum is concerned. I get the best results from hygienic precautions and Frenkel's reeducative movements.

DR. OSCAR T. SCHULTZ: Does a positive Wassermann in a case of tabes mean that there is an active luetic process present? I think not, but believe it may be due to products of nerve tissue degeneration. For this reason, I believe we usually get a positive Wassermann in a case of leprosy.

DR. DEXTER: Out of fifteen sero-diagnoses of tabes lately done there were 65 per cent. of positives.

DR. FRANK BILLINGS: Of twelve of my cases on which the Wassermann was done, ten were positive. It is my experience that a positive Wassermann becomes negative after eighteen to twenty deep injections of hydrargyrum; later it becomes positive again. It is only after repeating such a series of injections two or three times that the Wassermann remains negative. I repeat my series of injections from three to four times or more, if required; giving iodids between series. I have used sodium cacodylate very little in the treatment of tabes, and believe it to be of little value. However, I think that in cases of chorea, some cases of pericarditis with effusion, and certain cases of pleural effusion, it is of value, given in 5 to 10 grain doses, hypodermically, every twenty-four hours.

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting held Jan. 4, 1911

The President, DR. GEORGE DESCHWEINITZ, in the Chair

Salvarsan in Syphilis

DR. JUDSON DALAND: A study of this treatment seems to show that we have in it a remedy with a definite and very distinct influence on syphilitic processes, primary, secondary, tertiary and congenital. There is evidence also that the influence varies in different cases. In cases in which the disease is not definitely localized, the intravenous method of treatment gives the best results. Relapses have occurred in from 5 to 15 per cent. of cases.

Results from the Use of Salvarsan in Syphilis

DR. JAY F. SCHAMBERG: Nineteen patients were treated with salvarsan—eight subcutaneously and eleven intravenously. Of the patients with secondary syphilis treated subcutaneously, one was freed of eruptive manifestations by two injections. In one the eruption has disappeared, but the disease is obviously not cured. In two cases the treatment failed. One late ulcerating syphilid of the lip was cured. Among the cases in which no improvement was noted were one case of tabes. In one case of cerebral syphilis the result was indeterminable. In one case of spinal syphilis improvement was rapid. Of those treated by intravenous injections one paretic patient was not improved, and one improved; in one of tabes improvement was alleged by physician; one case of secondaries was free of recurrence at the end of sixty days; in one case of secondaries there was a suspicion of recurrence after forty days. One patient with semimalignant late secondaries was free of symptoms when last seen. In three cases of late secondaries, mouth lesions healed. In one case a gummatous ulcer of leg healed. In one case, the initial lesion is healed to date. In our experience the intravenous injections have produced a more prompt response to treatment and have exerted a more permanent beneficial effect than the subcutaneous treatment. Ehrlich's latest advice is to inject intravenously and follow this in some days by a subcutaneous injection.

Intravenous injections are usually painless, but are followed, as a rule, by nausea, vomiting and by brief moderate fever. In three patients there was severe pain; in three, moderate, and in three, little or no pain. An infiltrative tumefaction, tender to touch, slowly subsiding in the course of several weeks, developed in practically all of the cases. The results obtained in these cases with salvarsan could, in large part, have been achieved more slowly with mercury. It must be remembered, however, that the successful treatment of syphilis consists in more than the mere effacement of cutaneous and mucous membrane manifestations. Ehrlich and others have shown that salvarsan has a greater spirillicidal value than any known remedy. As to the duration of effect, no one is in a position to speak dogmatically at the present day. Ehrlich's hope of a *therapia sterilisans magna*—a cure at one stroke—is certainly not realized, save possibly in exceptional instances, but those who are disappointed in this must not conclude that a great therapeutic advance has not been made.

DISCUSSION

DR. FRANK CROZER KNOWLES: There are several insurmountable difficulties in the use of salvarsan, except in selected cases, unless the technic can be simplified and the dangers lessened. First, the use of the drug should be preceded by careful examination of the organs and vascular system and of the inner structure of the eyes. Second, the preparation of the drug for injection requires, if the Wechselmann method is used, approximately one hour; if the simpler technic of Lesser is employed, about one-half hour. Third, it is almost essential that patients treated by this drug should be kept in bed for several days to prevent either serious discomfort or complications. Moreover, the remedy is not infallible, as was at first thought. While salvarsan is an important aid in the treatment of syphilis, it will not, in my opinion, displace mercury in the cure of this disease.

DR. H. M. CHRISTIAN: My experience with salvarsan has been limited to about seven cases. The first case was one of tertiary syphilis, with a necrotic gummatous ulcer at the ankle, of about two years' standing. The man was injected in the gluteal region about six weeks ago. The ulcer healed within ten days and the man gained in weight from 15 to 18 pounds. He had been taking mercury and potash for over a year. The next case was one of chancre, which had resisted all ordinary methods. One dose of salvarsan was given. The temperature ran to 103-104 F. for two nights and then dropped to normal. In a week the ulcer was entirely healed. One case of acute roseola with sclerosis of a chancre was not much affected. In a case of papulosquamous eruption, the eruption has almost entirely scaled off. In all these cases the Wassermann reaction was positive.

DR. S. SOLIS COHEN: There is a peculiar psychic effect of salvarsan. A colored man, much emaciated, was admitted to the hospital on account of enlarged liver. There was a perforation of the palate extending through the bone as well as the mucous membrane, and a gumma in the neighborhood of the sternoclavicular articulation which was giving considerable pain. Eight-tenths of a gram of the neutral solution was injected into the muscles of the back. The pain of the gumma disappeared within a couple of days, and all other external evidence of disease disappeared. The Wassermann reaction, however, has remained continuously positive for some twelve weeks. The patient feels well; his appetite has been good and he has gained in weight. A curious fact is that daily and careful examinations of the urine have failed to reveal arsenic. The feces, unfortunately, were not examined.

DR. JUDSON DALAND: Because of a large number of relapses reported in Berlin, it has been decided definitely that the method of administration should be changed from the intramuscular to the intravenous. The intravenous dose for a male adult should not be less than 0.5 gm. More than 1 gm. has been given intravenously without ill effect. It is well to follow the advice of Ehrlich to employ the alkaline solution in all intramuscular injections. The point that Dr. Cohen made regarding the urine being arsenic-free, I cannot explain. Most of the reports show that arsenic remains in the urine for from ten days to two weeks or longer, and has been found in the fecal discharges for about the same length of time. When given intravenously, the arsenic is supposed to disappear from the urine in about four days, but recent observation shows that it persists much longer.

DR. J. F. SCHAMBERG: Regarding the value of this particular remedy, opinion must depend largely on the point of view. Those who were led to expect a cure at one stroke doubtless experience a feeling of disappointment. Those, however, who recognize that we have had introduced into our therapeutic armamentarium a drug of marvellous immediate value, cannot but feel that a great advance has been made. Doubtless, many cases of syphilis will require a repetition of treatment by this drug. At the present time salvarsan has its chief indication in those cases which resist mercury and iodid. It is, perhaps, fortunate that there is a halt in the exuberant enthusiasm excited by Ehrlich's announcement, for this may retard injudicious haste in the use of the drug by unqualified persons and in unsuitable conditions. At present, given a robust individual, with early syphilis, who desires treatment, it seems to me that we are perfectly justified in using it.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

January 28

1 *Personal Experience with a Very Restricted Diet (Rice) in Acute Inflammatory Disease of the Skin. L. D. Bulkley, New York.
2 Surgical Aspects of Filariasis. C. F. Stokes, U. S. Navy.
3 *Camphor in Large Doses in Pneumonia. L. Weber, New York.
4 Infant Mortality in New York City. W. C. Phillips.
5 Concealed Chancre of the Male Urethra. C. M. Whitney, Boston.
6 *Treatment of Peritonitis Consecutive to Appendicitis. J. J. Buchanan, Pittsburg, Pa.
7 Inebriety, Its Treatment and Curability. T. D. Crothers, Hartford, Conn.

1. This article also appeared in the *British Medical Journal*, Sept. 24, 1910.

3. **Camphor in Pneumonia.**—Of a freshly prepared solution, 20 per cent. camphor in oil of sweet almonds, Weber injected two hypodermic syringefuls into the outer circumference of the thighs every hour until eight had been given each day, representing altogether about 30 grains of camphor a day for four days. The patient recovered promptly, although at first there could be no doubt but that the patient would shortly die unless given some pneumococcus serum, or vaccine, or chemical antitoxin which would help her to overcome an infection against which her constitution could not prevail.

6. Abstracted in THE JOURNAL, Nov. 19, 1910, p. 1837.

Boston Medical and Surgical Journal

January 26

8 Herbert Leslie Burrell, M.D. (1856-1910). In Memoriam. E. H. Bradford, F. S. Watson and G. H. Monks, Boston.
9 Time and Method for Prostatectomy. B. Tenney, Boston.
10 Medical Problems of Alcoholism. I. H. Neff, Foxborough, Mass.

New York Medical Journal

January 28

11 *Nervous Affections and Adjustments of the Eyes. G. T. Stevens, New York.
12 *Carcinoma of the Ileum with Unusual Symptoms. A. Bassler and J. P. Grant, New York.
13 Dietary Studies in Institutions for Tuberculous Patients in the State of Colorado. C. D. Spivak, Denver.
14 Treatment of Septic Endometritis. H. Weil, New York.
15 *Direct Lavage of the Duodenum. M. H. Gross, New York.
16 When Sedatives are Tonic. W. F. Waugh, Chicago.
17 *Roentgen-Ray Therapy in Malignant Lesions. J. Rudis-Jicinsky, Cedar Rapids, Iowa.
18 Typhoid Complicated by Double Parotiditis. R. E. Coughlin, Brooklyn, N. Y.
19 Abuse of Urethral Instrumentation. G. Greenberg, New York.

11. **Nervous Affections and the Eyes.**—Attention has frequently been directed by Stevens to the important relation which exists between the habitual pose of the body, as well as the muscular expression of the face, and the peculiarities in the adjustment of the eyes within the orbits. In this paper he considers two forms of chronic spasm, one affecting the muscles of the neck, the other those of the face, which in their established and typical forms cannot be said to be subject to the influence of ordinary forms of medical treatment, and to which both surgical and electrotherapeutic treatment have most frequently been directed in vain. Stevens treats these patients through the eyes, and he reports several cases. Notable relief in each case not only followed, but was the direct result of the more or less complete correction of the maladjustments of the eyes. It is reasonable, then, he says, to attribute to bad adjustments the extreme conditions of spasm. He believes that such spasmodic conditions as these are, in a more direct sense, the result of habitual excessive tension of the affected groups of muscles, this excessive tension arising from certain habitual body poses or from certain facial expressions, all in the interest of compensation for, or correction of, the unfavorable adjustment of the eyes.

12. **Carcinoma of the Ileum.**—The report of the case under the author's observation is of interest for the following reasons: (1) Whether an attack of typhoid (the ulceration in which is mostly in the ileum) may have had to do with the

development of carcinoma at some local site of cicatrix formation of the healed typhoid ulcer; (2) the fact that there had been no vomiting in the course of the ulcer growth, this being possibly of eighteen months' duration, and being particularly of interest when the degree of peristalsis present in the case so strongly suggested a marked stenosis in the small intestine, and the fact that the first vomiting spell was fecal in type; (3) the marked degree of visible peristalsis which could be traced from the ileum up and which required the additional force of the stomach to drive the contents in the small intestine through the strictured ileum; the good condition of the general body, considering that the cancer was far advanced; (4) the operation of lateral anastomosis of the middle ileum (which is very movable) with the ascending colon (which is fixed) in such a way as to have an anchored receiving part of the union to which a very movable viscus (ileum) could accommodate itself as may be called for in its function, rather than to have joined the ileum to the sigmoid and have had two long mesenteries to both parts of the union, which would have increased the danger of twists or kinks at the site of union and would have brought about an abnormal position of the parts.

15. Abstracted in THE JOURNAL, April 23, 1910, p. 1365.

17. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1583.

Ohio State Medical Journal, Columbus

January

20 *Instruments Used by Lt.-Col. Henry Smith, I. M. S., and Some Points in Technic in His Method of Radical Extraction of Cataract. D. T. Vail, Cincinnati.
21 Comparison of the Old Cataract Operation with the New. C. F. Clark, Columbus.
22 Joint Removal of Capsule and Lens. R. Sattler, Cincinnati.
23 *Prostatectomy. W. D. Hamilton, Columbus.
24 *Serotherapy in Epidemic Cerebrospinal Meningitis. W. S. Chase, Akron.
25 Arthritis of Gonorrheal Origin and the Use of Gonococcus Vaccine. F. A. Ockley, Cleveland.
26 Carbohydrate Idiosyncrasy in Infants. A. Ramsey, Cincinnati.

20 and 23. Abstracted in THE JOURNAL, June 4, 1910, pp. 1896 and 1897.

24. Abstracted in THE JOURNAL, July 16, 1910, p. 246.

Washington Medical Annals

January

27 Review in Ophthalmology. R. S. Lamb, Washington, D. C.
28 *Kidney Displacements, Congenital and Acquired, as Etiologic Factors in Dystocia. P. Willson, Washington, D. C.
29 *Aneurysms in the Army Medical Museum. D. S. Lamb, Washington, D. C.
30 Specimens of Handwriting Before and After Treatment by Psychoanalytic Measures Followed by Re-Education. T. A. Williams, Washington, D. C.
31 Epithelioma of the Larynx. C. W. Richardson, Washington, D. C.

28. **Kidney Displacements.**—Only two cases of dystocia due to prolapse of a floating kidney into the pelvis in front of the pregnant uterus were found by Willson in the literature. Both mothers recovered and both infants were lost. One baby was delivered by version and extraction, but the kidney so filled up the pelvis that the delivery of the after-coming head was unduly delayed and fatal asphyxia resulted. The other child was delivered with Tarnier's basiotribe. The case reported by the author makes the third on record. The patient was a primapara, aged 21. She gave a history of attacks of acute pain in the right side, followed frequently by the passage of a large quantity of pale urine. The antepartum examination disclosed no abnormalities, except a slight contraction of the transverse diameters of the pelvis. An examination made after three hours of hard second-stage pains disclosed the cervix nearly dilated, and the head well engaged at the brim. The concavity of the sacrum was occupied by a mass of the shape, size and consistency of the right kidney. The kidney was freely movable, and during examination by the physician it was forced up over the brim of the pelvis. The woman was then delivered by forceps. Immediately following delivery, and a few days later, at the time of repairing a vaginal laceration, the kidney could be made out freely movable in the right abdomen and capable of being replaced in its normal position. The baby weighed 8¾ pounds, and was born alive and well

29. **Aneurysms in the Army Medical Museum.**—There are 116 specimens of aneurysm in the Army Medical Museum. All those received from the army are from men, making the proportion of men to women 8.4 to 1.0; the proportion usually stated is 7 to 1. Of the 116 specimens, seventy-two are of the arch of the aorta, seven of the thoracic aorta, fourteen of the abdominal aorta and the remainder divided up among many other arteries. Of the ascending, transverse and descending parts of the arch, the proportion is seven, four and two. Some specimens show two and even three aneurysms. The ages at death were between 24 and 94; sixty patients were between 30 and 60 years of age. The cause of death was stated in only ten cases, two of which were gunshot wounds, and the others were from some sort of strain. In eighty-three cases there was definite statement that the blood-vessel was diseased, or the specimen showed that fact; syphilis was noted in eleven cases, probably in others also, though not stated. The aneurysm was sacculated in seventy-seven, fusiform in twenty-eight, and in ten it was dissecting; there was aneurysmal varix, and one varicose aneurysm. In at least seventy-six cases the aneurysms ruptured, in five of these a diffuse aneurysm was thus formed. In two cases the aneurysm underwent suppuration. In many cases the patient died of some lesion supervening on the aneurysm or not at all connected with it; six persons died of pneumonia. The heart was enlarged in only twenty-two cases, and in some of these the enlargement was from valvular disease. Treatment varied. Rest was useful in some cases. Of the various drugs, potassium iodid seemed to be of use. Pain was controlled by morphia. Venesection, compression, coagulating injections, wire introduction, electrolysis and ligation had been employed in the various cases.

Vermont Medical Monthly, Burlington

January

32 Pathology of Cranial Injuries. B. H. Stone, Burlington.
33 Acute Epidemic Paralysis (Poliomyelitis). C. K. Johnson, Burlington.
34 Bismuth-Vaselin Paste in Suppurating Tracts. L. Allen, Burlington.
35 Treatment of Eclampsia. E. J. Melville, St. Albans.

Chicago Medical Recorder

January

36 Relation of Vasectomy to Eugenics. J. C. Hoag, Chicago.
37 Emergency Surgery and Surgical Emergencies. W. H. Allport, Chicago.
38 Open-Air Schools. C. Hedger, Chicago.

Journal of Infectious Diseases, Chicago

January

39 *A Method for the Bacteriologic Standardization of Disinfectants. J. F. Anderson and T. B. McClintic, Washington, D. C.
40 Application of Certain Laws of Physical Chemistry in the Standardization of Disinfectants. E. B. Phelps, Boston, Mass.
41 *Presence of Suppuration in the Tubercles of Leprosy. F. B. Gurd, New Orleans.
42 Susceptibility to Plague of the Weasel, the Chipmunk and the Pocket Gopher. G. W. McCoy, San Francisco.
43 *Effect of Vacuum Desiccation on the Virus of Rabies. D. L. Harris and L. F. Shackell, St. Louis.
44 *Administration of Diphtheria Toxin in a Collodion Sac. E. C. L. Miller, Detroit.
45 Biologic Reactions of the Vegetable Proteins. H. G. Wells and T. B. Osborne, Chicago.

39. Abstracted in THE JOURNAL, Sept. 17, 1910, p. 1043.

41. **Suppuration in the Tubercles of Leprosy.**—That many or, perhaps, most of the abscess formations, suppurative arthritides, and other purulent processes occurring in leprous patients are due to the invasion of tissues whose resistance is lowered by one or other of the ordinary pyogenic bacteria is undoubtedly correct; that, however, such a condition is not a necessity, a case which came under Gurd's observation proves. The patient had suffered from leprosy between two and three years. He was suffering from malaise, anorexia and other evidence of a constitutional disturbance. The tubercles situated over the face and hands were much swollen and very red and tender; one swelling over the malar prominence on the left side had ruptured spontaneously and was discharging pus. A tubercle over the posterior surface of the left wrist was incised, resulting in the expulsion of about 25 c.c. of a

yellowish-green purulent material. The material was planted on ordinary and several special culture media, both aerobically and anaerobically, without the development of a single colony. Smears were made and stained by Giemsa's method, carbol-fuchsin with acid decolorization, and by Gram's. The cellular elements with the polychrome stain consisted almost exclusively of polymorphonuclear leukocytes, together with a small number of large vesicular nuclei, practically devoid of protoplasm.

Leprosy bacilli were present in very large numbers. A few well-formed aggregations or globi were found, but for the most part the bacilli were lying singly or in small groups. A much larger percentage than usual appeared broken up in the form of granules. Certain numbers of pus cells contained a few bacilli but, in general, the organisms were free. Absolutely no other bacteria could be demonstrated in any preparation. In addition to the above case, in which comparatively large pus collections were present, the routine examination by Gurd of a number of leprosy nodules derived during life and at necropsy has shown that polymorphonuclear leukocytes may be found almost constantly in small numbers, although in no case have definite foci of such cells been seen.

43. **Vacuum Desiccation and the Virus of Rabies.**—The essential feature of Shackell's method is that the material is kept solidly frozen during the process of drying. Animal tissues when dried by this method are preserved intact, show no shrinkage, are porous, and resist chemical changes and deterioration. The authors have found that, by using Shackell's method of desiccation, brains and cords may be desiccated *in toto* without destruction of virulence. The time required for complete extraction of water is about twenty-four to thirty-six hours. A number of brains were so treated and the infectivity of all was preserved. After the completion of desiccation, these brains were placed in an ordinary desiccating jar over sulphuric acid, and left continually exposed to light at the ordinary room temperature. One brain has remained infective for four months. The only precaution taken was to guard against moisture. Material thus dried is like chalk, and is easily pulverized. It is, however, very hygroscopic, and, after a few hours' exposure to the air, becomes leathery and rapidly loses its infectivity. Experiments are now being carried on to compare quantitatively the virulence of desiccated cord with that of fresh cords, after the method described by Harvey and McKendick.

44. **Administering Diphtheria Toxin in Collodion Sac.**—In his experimental work Miller found that a guinea-pig may be killed by introducing a collodion sac containing diphtheria toxin into its peritoneal cavity; the slow absorption of toxin from the sac corresponding closely to the absorption of toxin from the false membrane in a case of diphtheria. To save the life of a guinea-pig by the administration of antitoxin after the introduction of a sac, requires an enormous dose or the long-continued administration of moderate doses. The reason for this seems to be that the antitoxin administered subcutaneously, being a foreign protein, is subjected to rapid destruction of the tissues, while the toxin protected from such destruction by the sac continues to diffuse out and kills the animal after the protective power of the antitoxin has disappeared. The essential difference between these sac tests and the administration of antitoxin in diphtheria appears to be that in these tests the antitoxin has no influence on the supply of toxin, while in diphtheria the administration of antitoxin is followed by destruction of the membrane, and consequently the supply of toxin ceases and the patient recovers. This power of antidiphtheritic serum to destroy the membrane is probably as important as its antitoxic action but, unfortunately, we have no means of measuring it. When used as a prophylactic, low potency serums protect for a longer time than those of high potency. Antitoxin protects until it is destroyed by the tissues. The more proteid it is combined with, the longer will its destruction be delayed. Diphtheria toxin in a collodion sac undergoes some change by which the sac, although containing less toxin than in the beginning, is able to kill a second guinea-pig in half the time required to kill the first. This difference may be analogous to the short incubation period of tetanus toxin from the blood of an animal compared with the incubation period of tetanus toxin produced by the growth of the germs *in vitro*. It may also account for certain very rapidly fatal cases of diphtheria.

Southern California Practitioner, Los Angeles

January

46 Submaxillary Infection. Ludwig's Angina. W. W. Roblee, Riverside, Cal.
47 Present Status of Gastric Carcinoma. W. P. Millspaugh, Los Angeles.
48 Infections in Minor Surgery. W. L. Huggins Los Angeles.
49 The Seventh Year of the Barlow Sanatorium, Los Angeles, Cal. R. L. Cunningham, Los Angeles.
50 Tonsillotomy vs. Tonsillectomy, with Technic. C. H. Montgomery, Los Angeles.
51 The German Clinics. H. H. Lissner, Los Angeles.
52 The Finsen Institute, Copenhagen, in 1910. A. Soiland, Los Angeles.
53 Atonic and Spastic Constipation. H. S. Gordon, Santa Ana, Cal.
54 Alcoholism as a Cause of Disease. H. A. Hughes, Phoenix, Ariz.
55 Los Angeles Medicine. W. Lindley, Los Angeles.

American Journal of the Medical Sciences, Philadelphia

January

56 *Paroxysmal Pulmonary Edema and Its Treatment. A. Stengel, Philadelphia.
57 Control and Treatment of Hypertension and Arteriosclerosis. H. L. Elsner, Syracuse, N. Y.
58 *The Tonic Use of Digitalis. E. Schmoll, San Francisco.
59 Treatment of Typhoid. F. S. Meara, New York.
60 Cholera from a Modern Standpoint. A. H. Doty, New York.
61 *Relation of Disease of the Gall-Bladder and Biliary Ducts to the Gastric Functions. J. A. Lichty, Pittsburg.
62 *The Dyspepsia of Old Age. G. M. Niles, Atlanta, Ga.
63 *Diagnosis of Tuberculosis of the Bronchial Glands. H. F. Stoll, Hartford, Conn.
64 Pellagra: Two Cases with Necropsy. P. V. Anderson, Morgantown, N. C., and W. G. Spiller, Philadelphia.
65 *Influence of the Trendelenburg Position on the Quantity of Urine Excreted During Anesthesia. J. W. Bovée, Washington, D. C.
66 Multiple Abscesses of the Nasal Submucosa in a Case of Leukemia. J. P. Tunis, Philadelphia.

56. **Paroxysmal Pulmonary Edema.**—The distinguishing features, clinically speaking, of the condition referred to by Stengel, are its sudden onset, usually with slight provocation; the evidence of intense pulmonary edema; the expectoration of quantities of frothy and blood-stained serum; and the repetition of such attacks without intercurrent complicating conditions. These features distinguish this condition from certain other forms of acute pulmonary edema, which, during their height, may not be especially different in clinical manifestations. The seizures, as a rule, come on in the evening or after the patient has gone to bed. He may awake from a profound sleep with an oppressive cough, followed by the symptoms described. In some cases, vague apprehensions or uncontrollable nervous feelings may precede the attack, but these usually occur after a repetition of the seizures has made the patient familiar with their character and fearful of their recurrence. Various kinds of excitement, physical or mental, may provoke the attacks; but in a large proportion of cases there is no such cause. Repeated attacks of the same character may occur at intervals of days or weeks during a long period of time. Between attacks, the patient may be perfectly well, or, more frequently, may give evidence of some inadequacy of cardiac compensation. In the cases which have terminated fatally, the final result has usually been due to increasing cardiac decompensation rather than to the sudden effect of an attack of pulmonary edema. Morphin, atropin, chloroform, nitroglycerin and venesection are employed to control the attacks. After the first stage of the attack has been controlled by an injection of morphin and atropin, it is desirable to make use of cardiac stimulants to revive the power of the left ventricle and to promote vasodilatation, if this be possible. For these purposes injections of strychnin, digitalin, and nitroglycerin may be employed, and aromatic spirits of ammonia or brandy may be given by the mouth if the patient is able to swallow. The after-treatment in cases in which one or more attacks have occurred consists in strict regulation of the daily life of the patient to avoid fatigue, excitement, cold and physical strains, and some care of the diet so as to prevent overloading of the stomach and superalimentation, particularly at the evening meal. Caffein may be particularly useful at this time, but strophanthus, digitalis or nitroglycerin may be desirable.

58. **Tonic Use of Digitalis.**—Schmoll holds that digitalis acts as a specific on the tonicity of the heart muscle, and is indicated whenever symptoms point to a failure of that function. Its tonic effects are best secured with a dose equal to the amount excreted—about 0.1 gram a day—though doses of 0.15 and 0.2 a day sometimes can be taken for weeks without the appearance of cumulative effects. Loss of tonicity is shown first by general symptoms—râles over the bases of the lungs, enlargement of the liver, and slight edema of the ankles. Digitalis is indicated, therefore, whenever these symptoms appear, and especially, he states, in cases in which the patient, after recovering from a severe break in compensation, shows a tendency to fail on the slightest exertion.

61. **Disease of the Gall-Bladder and Biliary Ducts.**—In 156 of 249 patients in whom the diagnosis of some disease of the gall-bladder and ducts has been made, Lichty made gastric analysis with the usual methods employed clinically to determine the secretory and motor condition of the stomach; eighty-four (54 per cent.) had hyperacidity; thirty-one (20 per cent.) had subacidity; and forty-one (26 per cent.) had normal secretion. The motor function, so far as could be determined, was normal in about the same percentage of cases. Of the 249 patients on whom these observations were made, fifty-one came to operation; thirty of these were subjected to gastric analyses; sixteen (about 53 per cent.) had hyperacidity; eight (about 26 per cent.) had subacidity; and six (about 20 per cent.) had normal acidity. In a number of the 249 cases the gastric analyses were made because there were definite symptoms of gastric disturbance associated with the gall-bladder symptoms, but in some it was made because the gastric symptoms were the only ones present, and later, when treatment did not produce the desired results, the abdomen was opened and either gall-stones were found, or adhesions from a local peritonitis, due to gall-bladder infection, had occurred between the gall-bladder and duodenum, between the gall-bladder and stomach, or both. In several cases both gall-stones and gastric ulcer were found. From these figures it would seem that about 75 per cent. of all gall-bladder cases may be associated with a disturbance of gastric secretion, and of this 75 per cent., two-thirds have hyperchlorhydria. Gastric motility, as well as gastric secretion, was disturbed in about the same proportion of cases.

62. **Dyspepsia of Old Age.**—The senile dyspepsias are divided into two classes by Niles, the hyperkoric and the akoric. In the first, or hyperkoric cases, the degeneration and insufficiency of the digestive organs simply keep pace with the rest of the body. With decreased muscular activity there are decreased assimilative powers, and the patient finds that articles of food now disagree which were formerly digested with ease. The second class, or akoric dyspepsia, is generally found in obese old people, or in those in whom the mental edge, perhaps once sharp and bright, has been either blunted or worn off. The normal tonicity of the stomach gives place to relaxation, its walls become flabby, and more food is required to give the sensation of comfortable fulness. Pyloric insufficiency is generally present, while atonic constipation supervenes almost as a matter of course. Hunger cannot be satisfied, elimination is imperfect, and the intestines veer between obstinate constipation and lienteric diarrhea. In the hyperkoric dyspepsia the food should contain a minimum of non-digestible, non-nutritious elements and lime salts. Most of the predigested foods on the market are unavailable on account of their high percentage of alcohol, but the meat juices, peptonized milk, malted milk, lactone buttermilk, malt extracts, eggs, and the farinaceous foods may usually be given, to which, if deemed advisable, the gastric and pancreatic ferments may be added. The proportion of cellulose, which should properly enter into the dietary of adults so as to promote peristaltic activity, may be omitted from consideration, and all foods should be given in the most concentrated form, and in the shape most easily assimilated. The management of the akoric type of senile dyspepsia will call for infinite tact and discretion. Cathartics should be used with caution, and gentle methods for cleansing the bowels should be combined with measures to overcome subsequent weakness.

63. **Tuberculosis of the Bronchial Glands.**—Tuberculosis of the bronchial glands, according to Stoll, often exists as a distinct clinical entity, capable of diagnosis. The presence of dilated veins over the anterior aspect of the chest, spinalgia, interscapular or vertebral dulness, and vertebral bronchophony speak strongly for enlarged bronchial glands, the tuberculous nature of which is perhaps assured when in addition to the above the individual is under weight and has a paroxysmal cough and the symptoms of a tuberculous toxemia. The recognition of the disease, while it is still limited to the bronchial glands, is of the utmost importance, as we know the most salutary results of tuberculin therapy are obtained in glandular tuberculosis.

65. **Urine Excreted During Anesthesia.**—If it can be concluded from Bovée's observations that the renal function is greatly lessened while the patient is in the Trendelenburg position, then the danger of that position is at once appreciated. In renal inefficiency, and cardiac and arterial lesions, it seems that the use of the Trendelenburg position introduces a special element of danger, and this less markedly when ether is used than when chloroform is employed as the anesthetic.

Southern Medical Journal, Nashville

January

67 *Study of Human and Bovine Bacilli, Isolated from Eleven Consecutive Cases of Cervical Adenitis. W. Litterer, Nashville.
68 Advance of Surgery. E. D. Martin, New Orleans, La.
69 Education of the Specialist. E. C. Ellett, Memphis, Tenn.
70 Treatment of Gastric and Duodenal Ulcers and Hyperchlorhydria. E. B. Block, Atlanta, Ga.
71 A Summary of Cases of Malaria. J. M. Swan, Watkins, N. Y.
72 *The Nausea of Pregnancy. G. H. Fonde, Mobile, Ala.
73 The Wassermann Reaction. J. O. Rush, Mobile, Ala.
74 Salvarsan in the Hospitals of Paris. A. L. Fowler, Atlanta, Ga.
75 First Measures Needed for Child Welfare on the Part of Municipal and Educational Authorities in the South. D. S. Hill, Nashville.

67. Abstracted in THE JOURNAL, Dec. 3, 1910, p. 2006.

72. Abstracted in THE JOURNAL, May 28, 1910, p. 1817.

New York State Journal of Medicine

January

76 *Diseases of the Stomach and Duodenum from a Surgical Standpoint. W. J. Mayo, Rochester, Minn.
77 Is There Such a Disease as Neurasthenia? W. Browning, Brooklyn.
78 Psychology of Tuberculosis. W. H. Kidder, Oswego.
79 *Care and Treatment of Epileptics. W. T. Shanahan, Sonyea.
80 Importance of an Early Diagnosis in Abnormal Pelvic Conditions. M. Gage-Day, Kingston.
81 *The Vein Sign in Abdominal Inflammations. W. W. Skinner, Geneva.
82 Old Truths About Infant Feeding Worth Repeating. C. G. Leo-Wolf, Niagara Falls.
83 Fibroid Uterus Didelphys. J. B. Conant, Amsterdam.
84 *Use of Antitoxin in Asthma. H. R. Parker, Barneveld.
85 Gunshot Wounds of the Abdomen. T. Wright, Buffalo.
86 Importance of Recognition and Treatment of Adenoids. A. H. Paine, Caledonia.
87 Relation of the General Practitioner to Refraction of the Eye. T. H. Farrell, Utica.
88 Typhoid Resulting in Death from Unusual Complication with Masked Symptoms. A. B. Sullivan, Liberty.

76. Also published in *St. Paul Medical Journal*, January, 1910.

79. **Care and Treatment of Epileptics.**—It is Shanahan's opinion that in brain tumor and traumatic cases of epilepsy, patients who are operated on early, before several seizures have occurred to produce permanent damage, may be benefited in many instances. Careful after-treatment with sedation when indicated is of the utmost importance. But, he says, the epileptic is too frequently a degenerate with an abnormal nervous system which cannot be readjusted and made anew by operative procedure. The congenital defect is beyond renovation by surgical skill. A regular occupation, preferably out of doors, is essential for the able-bodied epileptic. Special instruction in the ordinary school branches and especially in manual training, should be arranged for the younger patients. This is important to inculcate discipline as well as for the knowledge acquired. There is no specific medication to be used in epilepsy, although the proper use of the bromin preparations approaches this in selected cases. Bromids should be given early and continued over a period of years. If a maximum continued dose of from 75 to 90 grains during the twenty-four hours does not control the seizures in an adult, it is not wise, in the average case, to push the drug beyond this point. The elimination of sodium chlorid

from the diet aids materially in producing the full effect of the bromids. When associated cardiovascular conditions exist, digitalis, strophanthus, amyl nitrate, nitroglycerin, etc., prove of value. Shanahan finds that strychnin can be used without fear as a stimulant or tonic when indicated. Investigators have claimed much benefit resulting from the giving of calcium lactate, but a series of patients at Craig Colony to whom it was administered, failed to show much change, except one boy whose condition did improve some. The treatment of serial seizures, status epilepticus and the various mental disorders accompanying epilepsy is of great importance. Avoidance of constipation, proper exercise, a carefully regulated diet and frequent bathing are of the utmost value as prophylactic measures.

When status epilepticus is once established, the gastro-intestinal tract must be emptied thoroughly by cleansing enemata and by stomach tube. Then chloral or amylene hydrate by enema should be used judiciously to control the convulsions. The bromids are of but little value in this condition. Chloroform may be given in the early stage until some chloral has been absorbed. Lumbar puncture to relieve this supposed increased intracranial tension may be used in severe cases. Venesection is used in plethoric individuals. Cold sponges or packs are of great value to control the temperature which may be elevated to 107 or 108 F. For stimulation when required, Shanahan has found enemata of strong black coffee and hypodermatic injections of brandy and aromatic spirits of ammonia to act very well. After the convulsions have ceased, a supportive diet and careful nursing are all-important. He warns that pneumonia and bed sores must be watched for. For the mental disturbances close supervision, nourishing food, due attention to the emunctories and hydrotherapy are sufficient. The diet in epilepsy may be fairly liberal, avoiding an excess of meats and all pastries, sweets, etc. Some patients do better without any meat; cooked cabbage and cauliflower are to be avoided. The food must be well masticated, not bolted. For chronic cases in which there is an organic basis, the individual should be placed in the special institution where with his fellow sufferers he may lead as cheerful an existence as his condition will permit. He can have regular and congenial occupation, and recreation with a suitably arranged simple life with avoidance of all undue excitement. Epilepsy is essentially a chronic disorder, consequently treatment must be continued over a long period of years and in all instances a closely regulated mode of living must be maintained throughout the remainder of life. Shanahan presents a few charts which illustrate clearly how many defectives propagate and why their marrying should be systematically discouraged.

81. **Vein Sign in Abdominal Inflammations.**—In one of his earlier operations for appendicitis Skinner observed, in making the incision near McBurney's point, that the subcutaneous and deeper veins presented a dark and swollen appearance. In the next case, he was aided in making the diagnosis in the presence of rather obscure symptoms of general abdominal pain, vomiting, and little, if any, localized muscular rigidity, by carefully observing the conditions of the superficial abdominal veins. Since then he has never attempted any operative procedure on the appendix, or indeed in any inflammatory intra-abdominal conditions, without subjecting the subcutaneous veins to the most careful scrutiny in a good light with the skin gently stretched in successive areas. Repeated and careful observations, extending now over a period of more than nineteen years, have convinced Skinner that this venous darkening furnishes one of the most valuable and accurate localizing signs in intra-abdominal inflammation; a sign incapable of stimulation and independent in its records and manifestations alike of systemic, nervous and psychic conditions. He has also noted this sign in ulcerative conditions of the sigmoid flexure; in inflammations of the Fallopian tube and of other tissues and structures enclosed in its broad ligament; in cases of septic collections or pus-pools in Douglas' cul-de-sac; and in acute inflammations of the pelvis of the kidney or ureter.

84. **Antitoxin in Asthma.**—Although convinced that antitoxin gives some positive relief in asthma, Parker also feels that there is a large psychical element involved, and he has ceased to use antitoxin.

Yale Medical Journal, New Haven

December

89 Infantile Paralysis. J. G. Stanton, New London, Conn.
90 Id. L. F. Wheatley, Meriden, Conn.
91 A Case of Irregular Micturition. J. L. Buttner, New Haven, Conn.
92 Treatment of Infection Following Abortion, Miscarriage and Labor. C. A. Monagan, Waterbury, Conn.
93 Surgical Treatment of Gastric and Duodenal Ulcers. E. J. McKnight, Hartford, Conn.
94 Treatment of Fractures. G. W. Hawley, Bridgeport, Conn.
95 Principles of Intracranial Surgery. W. F. Verdi, New Haven.

Laryngoscope, St. Louis

January

96 Surgical Consideration of Tumors of the Larynx. J. F. Erdmann, New York.
97 *Analgesia of the Larynx by Alcohol Injection of the Internal Branch of the Superior Laryngeal Nerve. A. Lewy, Chicago.
98 Non-Suppurative Ethmoiditis. G. P. L. Marquis, Chicago.
99 Nasal Polypi. C. C. McCullough, Fort William, Ontario.
100 General Anesthesia in Operations in the Pharyngeal Region and About the Neck. M. Metzenbaum, Cleveland, Ohio.
101 A Modified Aural Speculum Especially Adapted for Incision of the External Canal. D. C. Smyth, Boston.

97. **Analgesia of Larynx by Alcohol Injection.**—Lewy describes a practical method for the relief of the pains in some cases of tuberculosis of the larynx which he has employed successfully in three cases. The injection is made directly through the skin of the neck. From 0.5 to 2 c.c. of 75 per cent. alcohol (with or without 1 per cent. cocain), warmed a little above body temperature is injected at a sitting. The patient's head is inclined to the side opposite the one to be injected; the skin, previously shaved, if necessary, is cleansed with alcohol; the operator's left hand grasps the larynx to steady it and hold it prominently under the skin of the side to be injected, in such a way that the thumb is on the uninjected side while the left index-finger seeks the comparatively tender point where the internal branch of the superior laryngeal nerve penetrates the thyrohyoid membrane, a point about half-way between the upper border of the thyroid cartilage and the hyoid bone, and about a centimeter in front of (mesially from) the superior cornu of the thyroid cartilage. The index-finger is held firmly in place while the needle is inserted at the point marked by the center of the nail to a depth of 1 to 1.5 cm. perpendicularly to the surface. If the nerve has been accurately located, this insertion will cause a pain radiating characteristically toward the ear. However, the injection may be made in this locality, drop by drop (after the pain caused by the insertion subsides), until the original pain ceases or until the full amount (2 c.c.) is used. The injection may be repeated next day, if necessary. In Lewy's cases there was no loss of the cough reflex or aspiration of food, which could be taken with comfort following the injection. An ordinary hypodermic syringe may be used, but a special obturator needle is perhaps preferable. No after-treatment is required. The puncture may be sealed with collodion if desired.

St. Paul Medical Journal

January

102 *Diseases of the Stomach and Duodenum from a Surgical Standpoint. W. J. Mayo, Rochester, Minn.
103 Ophthalmic Migraine. C. E. Riggs, St. Paul.
104 The Climate of Minnesota. H. L. Taylor, St. Paul.

102. Also published in *New York State Journal of Medicine*, January, 1910.

Medical Fortnightly, St. Louis

January 10

105 So-Called Chronic Rheumatism—Chronic Fibrositis: Treatment. M. Packard.
106 Salvarsan in Syphilis. J. L. Boehm, St. Louis.
107 Cause and Cure of Ingrowing Toe-Nail. C. C. Miller, Chicago.
108 Surgical Eponyms. M. Hagen, Chicago.

Alabama Medical Journal, Birmingham

December

109 Cesarean Section: Report of Seven Cases with Loss of Mother or Child. E. M. Prince, Birmingham.
110 Bismuth Paste in Thoracic Empyema. G. A. Hogan, Birmingham.
111 Home Treatment of Tuberculosis and Use of Tuberculin. C. M. Nice, Birmingham.
112 Ovarian Cystadenoma Weighing Seventy Pounds—Removal and Recovery. E. M. Robinson, Birmingham.

Albany Medical Annals

January

113 Public Health and Municipal Authorities. E. H. Porter, New York.
114 Public Health and the Municipal Authorities from the Standpoint of the Municipal Officer. C. C. Duryee, Schenectady, N. Y.
115 *Management of Pneumonia. R. W. Wilcox, New York.

115. **Management of Pneumonia.**—Success in the management of pneumonia, according to Wilcox, depends on the following points: 1. It is as important to know what sort of an individual has the disease as what disease he is suffering from. 2. No one has ever treated a "case of pneumonia" but a person suffering from this disease. 3. All therapeutic measures must be considered broadly as to method, remedy, disease and patient. Taking all into consideration, the treatment of pneumonia is especially satisfactory. Wilcox relies on: (1) The continuous, persistent and generous administration of creosote carbonate; (2) careful adjustment of mechanical conditions; (3) thorough evacuation of toxins by all possible means; (4) supplemental oxygen by inhalation, when required; (5) liquid diet until all physical signs disappear.

Interstate Medical Journal, St. Louis

January

116 Present Status of the Noguchi Method of Serodiagnosis of Syphilis. H. Noguchi, New York.
117 Means of Finding the *Spirochæta Pallida* by the India-Ink Method. J. S. Cohn, Chicago.
118 History and Methods of Application of Salvarsan. L. H. Marks, Frankfort, Germany.
119 Syphilis of the Nervous System. E. Jones, Toronto.
120 Treatment of Syphilis with Salvarsan. A. L. Wolbarst, New York.
121 Recent Progress in Treatment of Syphilis. H. Hallopeau, Paris.
122 Giant Cells in Syphilis. J. A. Fordyce, New York.
123 Salvarsan. B. C. Corbus, Chicago.
124 The Public and Syphilis. I. Dyer, New Orleans.
125 Syphilis and Pulmonary Tuberculosis. R. H. Babcock, Chicago.
126 Syphilis as a Cause of Pauperism. A. Ravogli, Cincinnati.
127 Sanitary Supervision of Prostitutes. P. A. Morrow, New York.
128 The Scaphoid Scapula Syndrome; Its Connection with Syphilis in the Ascendants. W. W. Graves, St. Louis.

Pennsylvania Medical Journal, Athens

January

129 Venereal Affections Considered as Epidemic Diseases. J. F. Schamberg, Philadelphia.
130 Prophylaxis of Venereal Disease. M. F. Gates, Philadelphia.
131 *Prophylaxis of Gonorrhea. M. F. Gates, Philadelphia.
132 *Abortive Treatment of Gonorrhea. M. Brooks, Philadelphia.
133 *Treatment of Acute Gonorrhea. W. F. Donaldson, Pittsburg.
134 *Diagnosis and Treatment of Chronic Gonorrhea. T. L. Disque, Pittsburg.
135 *Clinical Experience with the Antigonococcus Serum and Vaccines in Gonorrhea and Its Complications. W. H. MacKinney, Philadelphia.
136 *Gonorrhea and Marriage. G. A. Holliday, Pittsburg.
137 *Enuresis from Thyroid Insufficiency. E. B. McCready, Pittsburg.
138 Herpes Zoster Ophthalmicus. E. E. Wible, Pittsburg.
139 *Method of Preserving Eyes which Are Usually Removed. E. L. Jones, Cumberland, Mo.

131, 132, 133, 134, 135 and 136. Abstracted in THE JOURNAL, Nov. 19, 1910, pp. 1838 and 1839.

137. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1671.

139. **Method of Preserving Eyes.**—Jones describes the method of injecting cyanid of mercury, 1 in 1,500, first advocated by Darier in 1903.

Louisville Monthly Journal

January

140 Acute Pulmonary Edema. J. A. Flexner, Louisville.
141 Organic Diseases of the Cardiovascular System. W. F. Boggess, Louisville.

Therapeutic Gazette, Detroit

January

142 *The Prophylaxis of Gonorrhea. M. F. Gates, U. S. Navy.
143 *Treatment of Acute Gonorrhea. W. F. Donaldson, Pittsburg, Pa.
144 *Gonorrhea and Marriage. G. A. Holliday, Pittsburg, Pa.
145 Treatment of Ascites by the Intraperitoneal Injection of Adrenalin. T. M. Tyson and H. D. Jump, Philadelphia.
146 Salvarsan. M. Silverberg, San Francisco.

142, 143 and 144. Abstracted in THE JOURNAL, Nov. 19, 1910, pp. 1838 and 1839; 142 and 143 are same as 131 and 133 above.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

January 14

1 *Surgical Treatment of Displaced Semilunar Cartilages of the Knee. D. Power.
2 *Conservative Surgery of the Nose. W. Stuart-Low.
3 Connection of Enlarged Cervical Glands with Carious Teeth, Enlarged Tonsils and Adenoids. H. Osborne.
4 *Draughts and Colds. R. C. Macfie.
5 Biologic and Statistical Errors in the Work on Parental Alcoholism by Miss Elderton and Prof. Karl Pearson. M. D. Sturge and Sir V. Horsley.

1. **Treatment of Displaced Semilunar Cartilages.**—When the patient is seen directly after the injury, Power says, every care should be taken to replace the injured cartilage in position by well-considered manipulation. Rest in an extended position must be insisted on until the swelling has subsided and time has been given for repair, massage being employed during the whole of this period. It must be borne in mind that no satisfactory result will be obtained if the injury be treated simply as a sprain by rest and cooling lotions. It is essential that the cartilage should be replaced, for otherwise it is useless to rest the joint as it would be to rest an unreduced dislocation. When these methods have failed, or when the original condition has been badly treated, and the patient is left with a chronically inflamed joint, which is insecure, painful and locking, the sooner an arthrotomy is performed and the interarticular cartilage is removed the better it will be for the patient. Power's inquiries show that the least satisfactory results are obtained when the patient has been allowed to go about with a damaged fibrocartilage for months or years, the best results when he has had only a few attacks of painful fixation of a joint. In these latter cases the ligaments have not become stretched, and the joint quickly resumes all its normal functions.

2. **Conservative Surgery of the Nose.**—The most beneficent surgery of the nose, Stuart-Low holds, is the most conservative as regards the preservation of the mucous lining, and is almost always attained by operating successfully in stages, rather by what he calls physiologic, than by severe, sweeping, sacrificial surgery.

4. **Draughts and Colds.**—The conclusion reached by Macfie is that draughts do occasionally play an auxiliary part in the production of colds, but that they are easily deprived of their dangers, and should be favored rather than feared. To endeavor to escape colds by avoiding all draughts must always be futile and foolish policy, and will not only defeat its own aim by fostering bacteria and by promoting vasomotor lethargy and incompetence, but will lead to deficient vigor through interference with skin reflexes, which play an important part in the respiratory and circulatory functions. When we wish to excite the respiratory center of the new-born babe we appeal to its skin reflexes, and in cases of night sweats a breeze on the skin seems to give tone to the whole vasomotor system. The skin is certainly meant to be exposed to moving air currents and to vicissitudes of heat and cold; it is meant to have a blood-supply that ebbs and flows according to the thermal needs of the tissues; it is meant to perspire and to transpire; and accordingly to shut it off from wind currents and to enclose it in a motionless layer of moist air is, Macfie declares, to depart very far from the ways of physiologic righteousness. The bracing effects of dry air and of seaside breezes are largely due to their stimulating effects on the excretory and reflex functions of the skin; and the man who endeavors to avoid colds by avoiding all draughts, will not only catch more than his share of colds, but will possess much less than his share of health and vigor.

Lancet, London

January 14

6 *Influence of Parental Alcoholism on the Physique and Ability of Offspring. T. B. Hyslop.
7 Sepsis and Antisepsis in Medicine. W. Hunter.
8 *Subtotal Hysterectomy for Fibromyoma Uteri. A. H. G. Doran.
9 *Gangrene of Limb During Convalescence from Diphtheria. A. S. Ransome and E. M. Corner.

10 Importance of Removing the Uterus in Certain Diseased Conditions of the Ovaries and Fallopian Tubes. J. M. M. Kerr.
11 The Association of Duodenal Ulcer with Disease of the Appendix. H. J. Paterson.
12 *Treatment of Disseminated Sclerosis. E. F. Buzzard.
13 Torsion of the Left Broad Ligament and Fallopian Tube in a Child. M. A. Cassidy.
14 Massive Infarction of the Renal Cortex. J. A. Torrens.

6. **Influence of Parental Alcoholism.**—The theory discussed by Hyslop briefly stated is: Does parental alcoholism (of a pernicious kind)—apart from parental degeneracy, which, together with a tendency to alcoholism, is heritable—influence the physique and ability of offspring? He says that the association—in contra-distinction to causation—of alcoholism and degeneration in the parent is insufficiently understood, and the difficulty in distinguishing between cause and effect, both in the parent and offspring, is so great that the decision frequently must be mere guesswork. The present problem requires that parental alcoholism shall precede conception or the birth of the child; whereas, in the transmission of a psychoneurosis by direct inheritance, the parental alcoholic tendency may be latent, and not come into evidence until after the birth of the child. This necessitates complete differentiation between the two series. Alcoholism would appear to be responsible for a relatively greater number of births than would health or degeneracy without alcoholism, and there appears to be some evidence derived from experiments on animals treated by alcohol that their young, although in greater number, were much weaker. Epilepsy, some forms of insanity, defective inhibition and mental enfeeblement, deaf-mutism and stunted growth, although instances of what has been aptly termed the "general controlling determinant," and transmitted by direct heredity, are apt to be not only intensified in the offspring, but make their appearance at a relatively earlier age, when parental alcoholism has been an additional factor. Parental alcoholism appears to accentuate the downward trend of inherited psychoneurosis, and with each successive generation the period of exemption from alcoholism and degeneracy becomes shortened, so that the offspring become alcoholic or degenerate at relatively earlier ages. Alcohol would in this way act as a complementary factor to parental degeneracy, and aid in the devolution of the stock. The inheritance of psychoneurosis (which would tend to diminish in severity with each successive generation, and with the introduction of new correcting influences through marriage) becomes intensified and prolonged when alcoholism becomes a complicating factor. In this way, the psychoneurosis is kept alight through a greater number of generations.

8. **Subtotal Hysterectomy for Fibromyoma Uteri.**—To the sixty cases previously reported, Doran adds forty—making a total of 100 cases. In forty cases, or 40 per cent., both ovaries were removed, and the menopause was neither immediate, nor complete in four; in three out of four the amputation was above the os internum. In thirty-nine cases, or 39 per cent., one ovary was saved, and the menopause was neither immediate nor complete in twenty-one; in eighteen out of the twenty-one the amputation was above the os internum. In twenty-one cases, or 21 per cent., both ovaries were saved. The menopause was neither immediate nor complete in eight; in seven, possibly all, of the eight the amputation was above the os internum.

9. **Gangrene in Diphtheria.**—Nine cases of gangrene of parts distant to the disease, such as a limb, following diphtheria, were found by Ransome and Corner recorded in the literature. The gangrene in these cases was connected with a definite vascular lesion. In seven cases the lesion was a definite embolism; in one it is termed Raynaud's disease, and in two the origin is obscure. In no less than six out of the nine cases the leg was affected; in one there were, in addition, widespread gangrenous lesions. In two other cases there was a widespread necrotic affection. Thus it would appear that in six out of the nine cases the gangrene was due to a vascular lesion, and that in two it was due to a vascular lesion with the addition of an infective or septic character in the embolus. In only one case, that here recorded, was the diphtheria treated with antitoxin. The majority of the patients were children. The origin of these emboli seems to be in the auricles, particularly the left auricle, because in only one case was there also a pulmonary embolism. The embolus occurs during convalescence, at the time of reaction from the illness; in the authors' case on the seventeenth day of the illness. It seems to occur only after a severe diphtheritic attack. Subsequently to the embolism the temperature rose to 99.8 F. from subnormal, to which level it subsided, rising again in a few days' time from septic absorption from the gangrenous part.

12. **Treatment of Disseminated Sclerosis.**—The resemblance between cerebrospinal syphilis and disseminated sclerosis led Buzzard to suspect that the latter disease may be caused by some organism belonging to the same class as that of the treponema. The fact that this class of organism is best combated by mercury or arsenic induced him to commence the tedious experience of treating a few selected patients with disseminated sclerosis by repeated courses, or nearly continuous administration, of arsenic, on the same principle as that which makes the repeated administration of mercury the only effective method of preventing attacks of cerebrospinal syphilis in syphilitics. So far as the experiment has gone, there is nothing to show that it is useless, but Buzzard does not claim any success on the material at present available. He asks for cooperation.

Dublin Journal of Medical Science

January

15 Treatment of Fractures by Ancient and Modern Methods. W. I. de C. Wheeler.

Journal of Laryngology, Rhinology and Otology

January

16 Partial Petro-Mastoid Excavation with Preservation of the Tympanic Membrane and Ossicles. G. Mahu.

Annals of Tropical Medicine and Parasitology, Liverpool

December

17 *Enumerative Studies on Malarial Fever. R. Ross and D. Thomson.
18 A Case of Hemoglobinuric Fever (Blackwater Fever) Followed by a Peculiar Relapse Without Hemoglobinuria or Detectable Plasmodia. R. Ross, D. Thomson and G. C. E. Simpson.
19 *Hemoglobin Metabolism in Malarial Fever. G. C. E. Simpson.
20 *A Case of Sleeping Sickness. V. T. Korke.
21 Malaria in Relation to Splenic Enlargement and the Treatment of the Crescentic Stage. N. F. Surveyor.
22 *Peculiar Morphology of a Trypanosome from a Case of Sleeping Sickness and the Possibility of Its Being a New Species (*T. rhodesiense*). J. W. W. Stephens and H. B. Fantham.
23 *Pathogenicity of a Trypanosome from a Case of Sleeping Sickness Contracted in Rhodesia. W. Yorke.
24 Three New Species of the Genus Glossina, Together with a Description of the Hitherto Unknown Male of *Glossina Grossa, Bigot*. R. Newstead.
25 *Descriptions of a New Genus and Three New Species of Anopheline Mosquitoes. R. Newstead and H. F. Carter.

17. **Studies on Malarial Fever.**—It is believed by Ross and Thomson that there is a very decided correlation between the number of asexual plasmodia found in the peripheral blood and the fever. As a rule, no fever exists unless the asexual forms exceed some hundreds per cubic millimeter. The asexual forms do not always disappear between relapses (as often thought) but tend to persist in small numbers per cubic millimeter, and often increase again for some days before the actual febrile relapse occurs. These observations give a coherent theory of the malarial invasion, according to which the infection is kept alive indefinitely by the ordinary sporulation of the asexual forms, and not by parthogenesis or by resistant forms; and fever occurs only when the parasites are numerous enough to produce it. The authors estimate from their cases that considerable continued doses of quinin reduced the asexual forms by from 50 to 80 per cent. There are strong reasons for supposing that the sexual forms require eight to ten days for development; that the often noticed long persistence of crescents is not due to their long life, as generally thought, but to constant replenishments of the stock by fresh broods; that they sometimes show a distinct tertian periodicity; and that quinin does not affect them when once generated, but ultimately reduces their numbers by destroying the generating cells. The sexual forms were never seen to produce fever. The leukocytes are below normal during febrile periods and above normal afterward. The percentage of mononuclears rises after paroxysms and is always in excess of the normal. Methylene blue, soamin, Roentgen rays and

faradic and galvanic currents had no results in a few experiments. The hemoglobin falls markedly with fever, but rises rapidly with convalescence. The fecal urobilin shows marked correlation with the occurrence of fever.

19. **Hemoglobin Metabolism in Malarial Fever.**—Simpson summarizes his paper as follows:

1. The main excretory channel for the pigment portion of the blood is the alimentary tract, and urinary urobilin represents only a small overflow from this source; the main elimination is in the feces, and this has been largely neglected by previous observers, in favor of the urinary overflow, which, however, would seem to be of importance only as an indication of the absorptive activity of the intestine and almost negligible for quantitative purposes.
2. The fall in the hemoglobinometer readings in malaria appears to represent an actual destruction of red corpuscles and elimination of their pigment by the normal excretory mechanism.
3. The hemoglobin breakdown during the pyrexia due to the malignant tertian (*P. falciparum*) infection appears to be greater than in other pyrexial diseases or than in benign malaria (*P. vivax*), and may be many times greater than would be accounted for by the number of corpuscles infected by the parasites.
4. As regards their effect of causing hemolysis, the parasites appear to be of different degrees of virulence in different individuals, and even in different paroxysms in the same individual (relatively at least, since the patient's resistance must be considered).
5. Normally, the ordinary channels of excretion are capable of dealing with the free hemoglobin and rapidly remove it from the blood-stream, and a very severe strain (over 25 per cent. of the total circulatory hemoglobin) can be sustained without their failure and the consequent onset of hemoglobinuria.

20. **Sleeping Sickness.**—The observations made in this case by Korke show that the coagulation time of the blood is passing from the negative to the positive phase as the leukocytosis is passing toward leukopenia. The number of the parasites and the nature of the hemoglobin index are subject to very little variation. Examinations of the cerebrospinal fluid and blood for trypanosomes were negative, but albumoses were found in the cerebrospinal fluid, not in the blood. The urine during life was examined for albumose. The reaction was negative; later, in the preserved specimen of urine, albumose was again found to be absent. The patient had a large collection of pus in the pleural cavity, consequently the possibility that the albumose was due to empyema was thus eliminated by the result of the blood and urine examinations. So that although the cerebrospinal fluid was tinged with blood, the process of exclusion leads to the conclusion that albumose was present in the cerebrospinal fluid only. The test used for cholin was that of Mott and Halliburton, viz., the production of characteristic octohedral crystals in the platinum double salt from the alcoholic extracts of the cerebrospinal fluid. The result was positive. Control tests were made with the 15 per cent. alcohol and absolute alcohol used in the original test, but these were negative. Cholin was absent in the blood. The brain tissue was examined by Korke. The perivascular spaces around the blood-vessels in the substance of the brain were infiltrated with mononuclear leukocytes, chiefly lymphocytes. This change is typical of the sleeping-sickness brain where the infection is due to *T. gambiense*. The infiltration was not enormous.

22. **Morphology of a Trypanosome From a Case of Sleeping Sickness.**—The peculiarity of this Rhodesian trypanosome discovered by Stephens and Fantham is that among the stout or stumpy forms some have the nucleus at the posterior (non-flagellar) end. They have never found them, though persistently looked for, in the films from the same animals infected with the laboratory strain of *T. gambiense*, treated in the same way, *i. e.*, dried films. Further, they have examined the new trypanosomes by *intra vitam* staining with methylene blue; by this method the posterior position of the nucleus can be seen. Finally, they have fixed wet films with sublimate-alcohol and with osmic vapor respectively, and subsequently stained them with hematoxylin, and found the same forms. They also attach some importance to the fact that the patient from whom this strain was derived was never, as far as careful enquiries could elicit, in a *Glossina palpalis* area, but had been in many *Glossina morsitans* areas, and very probably in a small *Glossina fusca* area. On account of its peculiar morphologic features, the authors propose a distinct designation as *T. gambiense rhodesiense* or *Trypanosoma rhodesiense*.

23. **Pathogenicity of a Trypanosome From a Case of Sleeping Sickness.**—Yorke's observations as to the morphology of the parasite confirm those of Stephens and Fantham regarding the existence of posterior nuclear forms in infected rats, guinea-pigs and rabbits. He has not, however, succeeded in finding these forms in the blood of the patient himself, in spite of very careful daily examinations during a period of over three months.

25. **A New Genus and Three New Species of Anopheline Mosquitoes.**—This new genus is the dactylomyia. The head is clothed with upright forked scales; the palpi are rather densely scaled. There is a distinct and very pronounced cylindrical-shaped tubercle or finger-like process projecting obliquely from the prothoracic region, mid-way between the dorsum and venter, and arising from the anterior margin. Thorax and abdomen are clothed with hairs. The wings are covered with dense lanceolate scales. Judging by the character and distribution of the scales, this genus comes near *Anopheles;* but owing to the remarkable structures mentioned above it is easily distinguishable from any other known genus of the *Anophelinæ*. Three species are described by Newstead and Carter: (1) *Dactylomyia Ceylonica;* (2) *Pyretophorus cardamatisi;* (3) *Cellia cincta.*

Practitioner, London

January

26 Neurasthenia and Associated Conditions. F. W. Mott.
27 Neurasthenia and Drugs. D. Ferrier.
28 Traumatic Neurasthenia. W. Harris.
29 Neurasthenia and Eye-Strain. E. Clarke.
30 Neurasthenia and Gastralgia. R. A. Fleming.
31 Neurasthenia in Children. C. Riviere.
32 The Sexual Element in the Neurasthenia of Men. G. Holmes.
33 The Sexual Element in the Neurasthenia of Women. H. Macnaughton-Jones.
34 Mental Therapeutics in Neurasthenia. H. C. Thomson.
35 Neurasthenia and Insanity. A. F. Tregold.
36 Neurasthenia and Movable Kidney. C. W. Suckling.
37 Neurasthenia Minor. P. C. C. Smith.
38 The More Certain Control of Traumatic Neuroses. T. A. Williams.
39 Neurasthenia and Diet. D. N. Paton.
40 The Educational Treatment of Neurasthenia. F. Beach.
41 Treatment of Neurasthenia by Rest, Diet and Massage. C. W. Buckley.
42 Electrical Treatment of Neurasthenia. S. Leduc.
43 Climatic, Balneotherapeutic and Sanatorium Treatment of Neurasthenia. N. Wood.
44 Treatment of Neurasthenia by Physical Methods. J. A. Rivière.
45 Treatment of Neurasthenia by Hypnotism and Suggestion. C. L. Tuckey.

Journal of Tropical Medicine and Hygiene, London

January 2

46 *Zambesi Ulcer. W. J. Bruce.
47 Isolation of a Parathyroid Bacillus from a Drinking-Water Supply. A. May.
48 Filaria Loa. G. C. Low.

46. **Zambesi Ulcer.**—The main points about this ulcer according to Bruce are:

1. It is found, with rare exceptions, in one part of the body—below the knee.
2. It is usually single, rarely double, and more rarely in the form of two, or perhaps three, small ulcers on the same leg.
3. It does not spread, but exhibits immediate sloughing of the area attacked, remains a week or more and then heals by granulation.
4. It produces no constitutional disturbances nor enlargement of the lymphatic glands.
5. It is invariably associated with the presence of a spirillum and a large fusiform bacillus.

It is said that one attack gives considerable protection but not complete immunity, as years later the same person may develop mild small ulcers. It is said also to be met with only in the flat grass lands, such as the Zambesi delta, but this statement is not reliable.

Annales de l'Institut Pasteur, Paris

November, XXIV, No. 11, pp. 833-920

49 Experimental Research on Epidemic Poliomyelitis. (Maladie de Heine-Medin.) K. Landsteiner and C. Levaditi.
50 Antianaphylaxis. (Le procédé des petites doses et les injections subintrantes.) A. Besredka.
51 Method of Preserving Plague-Infected Organs for Examination. (Procédé de conservation des organes pesteux pour le diagnostic.) C. Broquet.
52 Relation Between Fowl and Mammalian Tuberculosis. (Rapport entre la tuberculose aviaire et celles des mammifères.) D. A. de Jong.
53 Eighth Antimalaria Campaign in Algiers. E. Sergent.

Presse Médicale, Paris

January 4, XIX, No. 1, pp. 1-8

54 Auto-Intoxication with Intestinal Obstruction. H. Roger.
55 Apparatus for Chloroform Anesthesia. P. Fredet and E. Merry.

January 7, No. 2, pp. 9-16

56 Methylene Blue in Treatment of Malta Fever. V. Audibert and Rouslacroix.
57 Structure and Development of Connective Tissue. J. Jolly.

Semaine Médicale, Paris

January 4, XXXI, No. 1, pp. 1-12

58 Presence of Blood Pigments in Urine in Malaria. (Nouveau signe pathognomonique du paludisme.) C. L. Urriola.

January 11, No. 2, pp. 13-24

59 Allowing Parturients to Get Up Early. (Le lever précoce des nouvelles accouchées.) R. de Bovis.

Archiv für Kinderheilkunde, Stuttgart

LIV, Nos. 4-6, pp. 241-484. Last indexed Nov. 12, 1910, p. 1769

60 *Amyotonia Congenita. (Myatonia congenita von Oppenheim.) J. P. C. Griffith (Philadelphia) and R. Lewin.
61 Viscosity of Blood in Healthy and Sick Infants. F. Lust.
62 *Diagnosis and Epidemiology of Pulmonary Tuberculosis in Children. K. E. Ranke.
63 Use or Harmfulness of Bacteria in Intestinal Tract. (Bedeutung der Bacterien im Intestinaltractus. Infection und Sterilisation desselben.) P. S. Medowikow.
64 *An Epidemic of Poliomyelitis. (Steiermarkische Poliomyelitis-epidemie im Jahre 1909.) K. Potpeschnigg.
65 Influence of the Dwelling on Development of the Child. (Einfluss der Wohnung auf die Entwicklung.) E. Gindes.

60. Abstracted in THE JOURNAL, May 21, 1910, p. 1712.

62. **Pulmonary Tuberculosis in Children.**—Ranke has had about four thousand children under continuous observation during the last three years in his work as school inspector and physician to the tuberculosis dispensary, and he has thus been able to trace the course of pulmonary tuberculosis in them and to correct mistaken impressions. He learned that apical catarrhal processes in children have nothing to do with tuberculosis. When they are of a tuberculous nature, they are merely one manifestation of a generalized tuberculosis. With the latter it is often the only sign indicating involvement of the bronchial glands, aside from radiography. This point, he says, is very important. Mild generalized tuberculosis is so frequent in children and so often runs a favorable course without any treatment, that its differentiation is imperative from the graver, pulmonary form which always requires strict measures and years of treatment. Apical symptoms, therefore, he declares, must be estimated entirely differently as they are observed in children and in adults. True pulmonary tuberculosis in children scarcely ever affects the apices first. He seldom if ever found associated chronic bronchial catarrh with pronounced phthisis in children. When bronchial catarrh occurs, it runs its course the same as in the non-tuberculous. In young children the glands and serous membranes are the seat of the tuberculous processes while in adults the lungs are the main site; these two forms of the disease do not blend into each other, he says, but are separated by a striking gap in the mortality curve. They actually seem almost two separate diseases, or more like the three phases of syphilis. The generalized form runs its course and heals, leaving a kind of immunity, though some minute focus may persist whence the bacilli may pass into the blood later. The lungs, the great blood filter, are especially endangered by this irruption of the bacilli into the blood, and after a period of weakness and anemia with occasional febrile attacks—the picture characteristic of the insidious form of a relatively mild generalized tuberculosis—a process like that in the lungs of adults may develop as adult age is reached.

Tuberculosis in any form in children should be combated, he declares, along the same lines as in adults. But scarcely a step has been taken in this direction. In the great world movement against the white plague only a few isolated pediatrists have taken part; and yet this is particularly the work of pediatrists, Ranke declares. Not only the theoretical solution for the problem of the origin of tuberculosis lies in the child material but also a large part of the practical success of the movement. The hygienic and other measures introduced into Germany in the last few years have reduced the adult mortality from pulmonary tuberculosis amazingly, he remarks, but it is equally surprising that the mortality from tuberculosis in children has shown practically no decline during this period. In some of the states it has even increased. Pediatrists are confronted here by a task which is no less important than the reduction of infant mortality from gastrointestinal disease. Under modern hygienic conditions tuberculous adults live longer and thus the period in which they can infect others has been lengthened. Tuberculosis in children can be prevented only by removing children from contact with the tuberculous family or by isolating the tuberculous member of the family in an institution. Neither can be realized at present, Ranke remarks, and it is the task of pediatrists to rouse the public to the necessity for these measures and to select the children who need treatment out of the millions already infected. Such children tire easily, show a moderate anemia, positive tuberculin reaction and higher temperature after playing and after retiring. In normal children the rectal temperature is not over 37.5 C. (99.5 F.); if it is above this figure over long periods, and other causes can be excluded, the child is ill and probably tuberculous. Small cheesy glands are responsible for the temperature in these cases. Careful supervision will reveal occasional sudden intercurrent attacks of fever for a day or for two or three days, resembling the tuberculin reaction. It may be impossible to detect any local manifestations. In many cases of ephemeral fever in children, an insidious generalized tuberculosis may be incriminated. The glands in the neck swelled in three of his cases in less than four weeks after infection and remained enlarged for nearly two years. Glands once the seat of a tuberculous process may subside to normal size but generally are unusually hard and are adherent to the surrounding tissues, while recently infected glands are movable. The hilus glands may also subside after having been enlarged, but they cast a shadow with radiography thereafter into adult life; such shadows, therefore, are not necessarily a sign of an active tuberculous process.

64. **Acute Poliomyelitis.**—Potpeschnigg states that about 600 cases of acute anterior poliomyelitis developed in 1909 in the Steiermark district which has a population of 1,750,000. Question blanks were sent to all the medical men in the district and 235 returned them, bringing out a number of important points in regard to the disease. The onset frequently was not accompanied by fever, but when there was high fever sweats were common. Sore throat was almost constantly observed as a prodromal symptom. Sharp pains in the breast were also noted in some cases. In others the first sign of trouble was intense pain in one limb and when the paralysis developed, this limb was first affected. On suspicion of the disease, the child should be kept in bed. He relates several instances of serious trouble following premature use of the limbs in what promised to be otherwise mild forms of the disease. The patients should be kept unconditionally in bed for weeks even in the mild cases, and brief active movements commenced gradually and with extreme caution. He illustrates by a number of examples the fact that even the absence of fever and pain and subjective disturbances is no guarantee that the disease has been arrested or run its course. No benefit was observed from lumbar puncture in his experience but no harm resulted. Occasionally the paralysis disappeared abruptly, but never could any connection between this and any special measures be detected. He begins cautiously with faradization and massage two or three weeks after the acute process has begun to decline. Plaster and other splints were applied to prevent secondary contracture from preponderance of the muscle antagonists. The limbs were also placed so as to prevent passive overstretching of the paralyzed groups of muscles. The deltoid is generally the muscle most affected and to prevent overstretching he has the arm placed over the head during the night. In prophylaxis some recommend throat and mouth sprays and gargles with from 1 to 3 per cent. hydrogen dioxid. In scarcely any other disease, he adds, is it possible for the patient and his environment to render so much more favorable the final outcome of the disease. If the paralyzed patient is allowed to lie still in bed undisturbed, and nothing is done but a little faradization and massage, complete atrophy and secondary contracture are almost inevitable, but suitable measures to combat this tendency, energetically and perseveringly applied, accomplish wonders even in the most apparently hopeless cases. Intelligent cooperation on the part of the patient is a great aid in this respect. It was found that several cases retrospectively diagnosed had occurred in the district previous to the 1909 epidemic. The incubation was as long as five, six and ten days in some instances. The mortality was 7.51 per cent. in the younger children and 24.25 per cent. over the age of 14. Death was the result of paralysis of the muscles of respiration. Anatomic research shows that islands of normal tissue may be found in the apparently totally paralyzed muscle, or there may be paralyzed patches in nearly normal muscles.

Beiträge zur klinischen Chirurgie, Tübingen

December, LXXI, No. 1, pp. 1-316

66 *Present Status of Transplantation of Living Human Bone. E. Streissler.
67 Meckel's Diverticulum in Congenital Inguinal Hernia. Schede.
68 Cause of Congenital Torticollis. (Entstehung des angeborenen muskulären Schiefhalses.) H. Schloessmann.
69 Alkaptonuria a Degeneration from Inbreeding. (Ueber Ochronose.) H. Kolaczek.

66. **Present Status of Transplantation of Living Human Bone.**—This article of 208 pages is a summary of this subject from its early history to date. Extensive experimental research is also reported.

Berliner klinische Wochenschrift

December 19, XLVII, No. 51, pp. 2330-2380

70 *Chronic Duodenal Ulcer. E. Melchior.
71 *Relations Between Tumors in Female Genital Apparatus and Diabetes Mellitus. F. Hirschfeld.
72 *Leprosy and Cancer. M. Søegaard.
73 *Importance of Antitrypsin Reaction in Diagnosis and Prognosis of Cancer. A. Pinkuss.
74 Treatment of Progressive Paralysis with Sodium Nucleinate. J. Donath.
75 Physiology of Respiration. (Neure Untersuchungen zur Physiologie der Lungenatmung.) A. Loewy.

December 26, No. 52, pp. 2381-2412

76 Case of Splenomegaly, Left Hydronephrosis and Carcinoma of Ureter. J. Israel.
77 *Relations Between Status Lymphaticus and Addison's Disease. F. v. Werdt.
78 Metastatic Gonorrheal Conjunctivitis. W. Rusche.
79 Vestibular Nerve Symptoms in Disease of the Internal Ear. (Vestibulare Reiz- und Ausfall-Erscheinungen bei Labyrintherkrankungen.) I. Herzfeld.
80 Oil Suspension of Salvarsan. (Ein 40 proz. Dioxydiamidoarsenobenzol-Oel.) C. Schindler.
81 Action of Injections of Metallic Mercury. E. Richter.
82 Principles for Treatment of Placenta Prævia. E. Runge.

70. **Chronic Duodenal Ulcer.**—Melchior is inclined to believe that chronic duodenal ulcer is the result of a predisposition and that it is useless to excise the ulcer as the conditions inducing the predisposition remain after excision. The best means of treatment is to exclude the entire duodenum; this is effectually done by a gastro-enterostomy if the pylorus is closed at the same time; if the pylorus persists permeable the operation does not remedy conditions. He reports the details of four typical cases to illustrate the benefit that will follow treatment on these principles. Even with fulminating hemorrhage from a chronic duodenal ulcer, it is better, he says, to avoid any direct operative procedure on the ulcer itself. The gastro-enterostomy permits complete exclusion of the duodenum; with gastric ulcer the region can never be so completely excluded. Cancerous degeneration of a duodenal ulcer is extremely rare, he declares. He even advocates gastro-enterostomy as a prophylactic measure, not waiting until the surgeon's hand is forced. Although the affection may seem harmless yet it is a Damocles' sword hanging over the patient's head, perforation peritonitis or severe hemorrhage being liable to occur at any moment. This does not of course refer to the ecchymosis or hemorrhagic erosions of the duodenum liable to follow amputations; he has observed this in three cases and has found records of nine others. The trouble in these cases is probably the result of minute arterial emboli; in every case there was a suppurating focus elsewhere. In no instance, however, he adds, has a chronic duodenal ulcer been traced to an accident of this kind in the past. It always seems to be due to some reduction of the vital resisting power of the duodenal wall in respect to the peptic action of the gastric juice. This assumption is confirmed by the frequent multiplicity of such tumors and their association with gastric ulcers.

71. **Genital Tumors and Diabetes.**—Hirschfeld reports two cases in which diabetes preceded or accompanied uterine fibromyoma and cites four others from the literature. In three of the cases the diabetes retrogressed or became attenuated after removal of the tumor. In his clinical experience diabetes in women under 50 has run a more rapid course than in men and after 50 a much slower course. The conditions with an accompanying genital tumor are much the same as with pregnancy. The rapidly growing tumor may cause changes in the organs concerned in the carbohydrate metabolism; the influence of menstruation can be detected and also the lessening of the hemorrhage from the tumor on an antidiabetic diet.

72. **Cancer in Lepers.**—Søegaard has studied the records of the leper asylums in Norway and found only nineteen deaths from cancer in the 2,269 deaths recorded, that is, only 0.84 per cent., while the cancer mortality in the population at large was 3.5 per cent. in 1865; 5.1 per cent. in 1880; 7.5 per cent. in 1897; and 8.5 per cent. in 1906. The lepers in Norway are isolated.

73. **Antitrypsin Reaction in Diagnosis of Cancer.**—Pinkuss states that the reaction was positive in nearly 94 per cent. of ninety-eight patients with certain cancer and he thinks that it can be accepted as a valuable sign of the presence of cancer and as an index of the results of operative treatment, radiotherapy, fulguration, etc. The technic is that described by Brieger, Marcus and Trebing. B. Fränkel, von der Heide and Krösing have also reported from 90 to 100 per cent. positive reactions with the method. The test is based on the fact that normal blood-serum contains sufficient antibodies to inhibit the digestive action of a 1 per cent. solution of trypsin on the Loeffler plate in the proportion of 1 to 3. This inhibiting power is materially increased in cancer patients, ranging between 1 to 10 and 1 to 20. It was described in THE JOURNAL, July 4, 1908, page 83. Pinkuss found that the test was liable to fail after excessive losses of blood, and he warns that it is a biologic reaction which should be estimated in connection with the clinical picture as a whole.

77. **Relations Between Addison's Disease and the Status Lymphaticus.**—In v. Werdt's two cases pronounced hypoplasia of the chromaffine system accompanied the typical Addison's disease, while the lymph glands were enlarged.

Deutsches Archiv für klinische Medizin, Leipsic

CI, Nos. 3-4, pp. 209-420. Last indexed January 28, p. 311

83 Metabolism of Matter and Energy During Fever. (Stoff- und Kraftwechsel im Fieber.) E. Grafe.
84 Formation of Blood in Spleen and Liver After Posthemorrhagic Anemia. (Zur Frage der extramedullären Blutbildung bei posthämorrhagischen Anämien.) A. Skornjakoff.
85 Pulse and Respiration-Rate. (Studien über Puls und Atmungsfrequenz.) K. v. Korosy.
86 *Changes in Gastric Mucosa with Acute Infectious Diseases. (Veränderungen der Magenschleimhaut bei akuten Infektionskrankheiten.) E. Jerusalem.
87 *Tryptophan Test and Acetic-Acid Test in Early Diagnosis of Gastric Cancer. H. Oppenheimer.
88 *Inhibiting Influence of Emotions on Gastric Secretion. (Hemmende Einfluss der Psyche auf die Sekretion des menschlichen Magens und seine Bedeutung für die diagnostische Verwertbarkeit des Probefrühstucks.) K. Grandauer.
89 Functioning of Diseased Kidneys. W. Schlayer and Takayasu.
90 Direct Injury from Extreme Tachycardia. K. F. Wenckebach.
91 Histology of the Intestines with Pernicious Anemia. L. Aschoff.

86. **Changes in the Gastric Mucosa During Acute Infectious Diseases.**—Examination of the bodies of persons dying from acute infectious diseases showed invariably serious pathologic conditions, mostly an interstitial gastritis with proliferation of connective tissue. Whooping-cough with complicating bronchopneumonia was the only disease in which the changes were merely a slight interstitial degeneration. Jerusalem examined the cadavers twenty-four hours after death, and remarks that the pathologic conditions found readily explain the lack of appetite, vomiting, etc., observed in acute infectious diseases.

87. **Early Diagnosis of Gastric Cancer.**—Oppenheimer reports the findings with Neubauer and Fischer's glycyltryptophan test constantly negative in five normal persons, in twelve with gastric ulcer and in seven with non-malignant stomach troubles, while the findings were constantly positive in six cases of certain cancer in the stomach and in three clinical cases while they varied in the suspects. In only one case were the findings contradictory of the clinical history. (The test was described in THE JOURNAL, Jan. 1, 1910, page 86.) It is evidently not infallible, as even this one case shows, but positive findings are certainly strong evidence in favor of presumptive cancer. Acetic acid, Oppenheimer adds, can also be used to differentiate cancer. Forty minutes after the Boas test breakfast some stomach content is withdrawn and a 3 per cent. solution of acetic acid is added a drop at a time to a few cubic centimeters of the filtered gastric juice. In case of the presence of cancer the fluid turns turbid and persists turbid

even when the fluid is diluted with water to five times its volume. The turbidity vanishes, however, if large amounts of acetic acid or a little hydrochloric acid are added. The only source of error seems to be the presence of mucus, as this also produces turbidity when the acid is added. But the turbidity from this cause does not clear up on addition of hydrochloric acid while it vanishes when the fluid is much diluted. If the filtrate of stomach content is very turbid to start with, the test is not applicable, but it is generally possible to obtain a limpid filtrate by slowly filtering the fluid through a moistened folded filter. The tryptophan and acetic-acid tests paralleled each other with precision in his experience, but the latter test is more reliable, he thinks, as the findings are not affected by the presence of blood, trypsin or bacteria, while the acetic-acid technic can be applied to vomitus as well as to siphoned-out stomach content. The findings were constantly negative in seven healthy persons, in twenty-four with gastric ulcer and hyperacidity and in nine with non-malignant stomach affections while they were positive in all the cancer cases except one in which the findings with the tryptophan test likewise contradicted the clinical course.

88. **Inhibiting Influence of Emotions on Gastric Secretion.**—One practical point brought out by Grandauer is that the gastric secretions are influenced, often to an unsuspected extent, by the mind during the process of the test meal and obtaining stomach content for examination. He found that the findings differed widely on different examinations, the fluctuations growing less and less marked as the individuals became accustomed to the procedures involved. The psychic hypersecretion or hyposecretion may nullify the conclusions to be drawn from the findings; even the psychic difference between taking the arbitrary test meal and an ordinary meal may have a marked influence.

Deutsche medizinische Wochenschrift, Berlin

January 5, XXXVII, No. 1, pp. 1-48

92 *Injury of the Eye. (Pathologie und Therapie der Verletzungen des Auges.) A. Elschnig.
93 A Post-Mortem Auscultation Phenomenon. H. E. Hering.
94 *Antiphlogistic Action of Lime. (Entzündungswidrige Wirkung löslicher neutraler Kalksalze.) H. Leo.
95 *Nutrient Intravenous and Subcutaneous Injection of Sugar. (Intravenöse und subkutane Ernährung mit Traubenzucker.) W. Kausch.
96 Serum Sickness. J. v. Bokay.
97 Salvarsan. K. Kreibich.
98 Herpes Zoster After Injection of Salvarsan. S. Bettmann.
99 Paralysis of Ocular Muscles After Salvarsan. C. Stern.
100 Carcinomatous Meningitis. M. Lissauer.
101 Importance of Corpus Luteum for Periodicity of Sexual Cycle in Mammals. L. Loeb.
102 Clinical Importance of Diathermia. F. Nagelschmidt.
103 Medical Education in the United States and Canada. C. Bäumler.
104 Quadricentennial of Ambroise Paré. W. Haberling.

92. **Injury of the Eye.**—Elschnig presents the general principles in treatment of trauma of the eye, remarking in regard to the prognosis that all nervous disturbances in the orbit resulting from pressure of extravasated blood in the region are capable of complete retrogression, while direct lesions of the nerves usually persist unchanged. Special care must be taken to prevent the drying or ulceration of the cornea when the eyeball protrudes or the lids do not close perfectly. If inflammation develops in the orbit from infection from the nose, the prognosis is almost inevitably bad. Emphysema, on the other hand, has an excellent prognosis. Treatment of all fractures deep in the orbit should be exclusively conservative. With much suggillation a compressing bandage, ice-bag and complete repose may be indicated. Only with extreme protrusion of the eyeball or very severe emphysema is it necessary to relieve by evacuation of the blood at the most swollen part of the orbital tissue. Direct operative measures are necessary if there is a fracture of the walls of the orbit with dislocation. Compound fractures should be treated by the usual surgical principles. Elschnig adds, in conclusion, that in every extensive compound fracture of the orbit, as also in every case of extensive injury of the soft parts in which contamination with soil cannot be absolutely excluded, a preventive injection of tetanus antitoxin should be given.

94. **Antiphlogistic Action of Lime.**—Leo expatiates on the importance of the statements of Chiari and Januschke in regard to the power of a neutral solution of lime salts to prevent the development of pleural effusions and edema in general. (Their statements were summarized in THE JOURNAL Dec. 10, 1910, page 2102.) Subcutaneous injection of a few cubic centimeters of a 5 per cent. solution of calcium chlorid proved able to prevent the development of inflammatory edema in the conjunctiva of the rabbit's eye after instillation of mustard oil. They explained this hitherto unknown powerful action of calcium chlorid by assuming that the lime rendered the vessel walls less permeable. Leo has been repeating their experiments, his results confirming theirs in every particular. He has further demonstrated that 1 c.c. of a 2.5 per cent. solution of calcium chlorid can be injected subcutaneously into man without any local or general harm resulting. Chiari and Januschke used the intravenous route without by-effects, but Leo found the results less prompt and reliable than after subcutaneous injection. The effect was even more pronounced by the mouth than by intravenous injection, probably because the lime is eliminated too rapidly after the latter. The action is slower by the mouth than by subcutaneous injection, but 100 c.c. of a 2 per cent. solution of calcium chlorid given by the mouth cured the rabbit's conjunctivitis in six days, by the end of the week the eye appearing entirely well. He and others have repeatedly taken this dose without disturbances. His experiences further show that instillation of the same solution has a surprisingly curative action on conjunctivitis. As no unfavorable action from the instillation of 100 c.c. of a 2.5 per cent. solution of calcium chlorid in the rabbit was perceptible, he thinks that this measure can be applied in the eye clinic. A typical experiment was instillation of a drop of mustard oil in one eye; three hours later when the conjunctiva and skin around showed intense inflammation, a few drops of the calcium chlorid solution were instilled several times in the course of five minutes. Three hours later the swelling had considerably subsided, while in the control animal it was still intense. The solution was then instilled again and the next morning the lids of the control animal were firmly glued together and secreting thick pus, the conjunctiva swollen and red, and the cornea turbid. The animals treated with lime had much improved and in two days there was scarcely a trace of the inflammation, while it persisted in the control animals with great intensity and was perceptible six weeks later. Repeated series of experiments gave the same results and he regards the discovery of this local antiphlogistic action as of great importance. He thinks that it may prove useful in tonsillitis, rhinitis, gastritis or ulcer and inflammation of other mucous membranes. Other neutral soluble salts of calcium may prove effectual, particularly the lactate. Calcium chlorid may be found useful in rectal injection for enteritis, in a 1 or 2 per cent. solution; calcium carbonate has already been advocated for this purpose.

95. **Nutrient Intravenous and Subcutaneous Injection of Sugar.**—Kausch reports that his extensive research for some means of feeding otherwise than by the mouth has shown that grape sugar can be given in a 10 per cent. solution by intravenous injection and by subcutaneous infusion up to 5 per cent., to a daily dose of 1,000 c.c. This nourishes the patient while supplying fluids and he has found it extremely useful as a postoperative measure. He commends it as an important adjuvant in surgical affections and in cholera, uncontrollable vomiting and other troubles, draining the body of fluids.

Jahrbuch für Kinderheilkunde, Berlin

December, LXXII, No. 6, pp. 661-782

105 *Immunity to Scarlet Fever. F. v. Szontagh.
106 *Scarlet Fever. (Zur Kenntnis des Scharlachs.) A. Gigon.
107 Bacteriologic Study of Infants' Stools. K. Blühdorn.
108 *Orthostatic Albuminuria. (Zur Lehre von der lordotischen Albuminurie.) A. Lury.

105. **One Attack of Scarlet Fever Does Not Confer Immunity.**—Szontagh has one patient who has had scarlet fever three times in less than three years. Each time it ran a typical course without complications. Another little girl had scarlet fever twice in one year, succumbing to the complications of the second attack. The mother had suppurative tonsillitis during the child's first attack and typical scarlet

fever along with the second attack. A Budapest physician who had charge of the scarlet-fever ward for five years, and had never had any eruptive fever except erysipelas at the age of 12, developed scarlet fever himself at the age of 41, a year after giving up his charge of the contagious ward, although he had not seen a case of scarlet fever for twelve months. Another Budapest physician died on the fifth day of an attack of scarlet fever acquired at 42, although he had been repeatedly in contact with scarlet-fever patients during his entire practice. These and other facts cited seem to demonstrate that scarlet fever does not confer immunity and that the causal germ is ubiquitous. The sore throat and eruption are manifestations of the action of toxins, not the foci of infection. The prevailing theory as to the etiology of scarlet fever can no longer be maintained, Szontagh declares, and he adds that the prophylactic measures at present in vogue have no value. The conditions are far more complex than we have hitherto assumed; possibly, he says, the study of anaphylaxis may throw light on the problem.

106. **Scarlet Fever.**—Gigon reviews the experiences with 453 cases of scarlet fever at the Basel contagious service since 1907. Twenty-nine of the patients were between 20 and 50; the mortality was 1.77 per cent., but all in children. The child of a mother with scarlet fever was born with the disease. In seventeen cases the scarlet fever developed after trauma—severe burns in twelve of the cases. A recent Zurich thesis also reports six cases of severe burns among twenty cases of traumatic scarlet fever. Although Gigon kept the children in the hospital ten weeks and every precaution was taken to prevent the infection of others, yet there were five return cases. The third week seems to be the period of special predisposition for lymphadenitis, nephritis and post-scarlatinal fever and heart trouble. Scarlatinal rheumatism was observed almost exclusively in adults. In three cases fatal pneumonia developed during the third week. In three cases the nephritis persisted for over seven months, and in two cases uremia developed; great improvement was observed in one of these cases after venesection. In three instances the children in a family developed hemorrhagic nephritis at the same date in the disease; in three other instances, otitis on the same date, and in another family two sisters developed scarlet fever the same day and both developed severe jaundice during the fifth week. It was generally noticed that the course of the disease seemed of the same character in all the children from a family. Varicella in connection with scarlet fever was unusually severe but other eruptive diseases ran an unmodified course. In seven cases the disease was an actual scarlatinal diphtheria, in one scarlatinal croup with typical false membranes, but no diphtheria bacilli could be cultivated from the throats.

108. **Orthostatic Albuminuria.**—The experiences reported by Lury confirm the assumption that induced lordotic albuminuria and possibly also lordotic or orthostatic albuminuria occur only when the kidney is abnormally movable. He experimented with 100 children, having them stand for five minutes in moderate lordosis after the urine had been found to be free from albumin. In thirty-six of the children albuminuria resulted. Other experiments confirmed the assumption of the connection between movability of the kidney and the transient albuminuria.

Medizinische Klinik, Berlin

January 1, VII, No. 1, pp. 1-44

109 *Diabetes Mellitus. C. v. Noorden.
110 *Cancer of the Uterus. (Kampf gegen den Gebärmutterkrebs.) F. Schauta.
111 Salpingitis After Abortion. (Zur Frage der Selbstinfektion.) L. Aschoff.
112 Abdominal Pain. (Die Schmerzempfindung innerhalb der Bauchhöhle und ihre Bedeutung für die Diagnose.) M. Wilms.
113 Ileus from Dilatation of Gall-Bladder. W. Anschütz.
114 *Hereditary Displacement of the Patella. (Erbliche angeborene Kniescheibenverrenkung.) L. Wrede.
115 Functional Capacity and Oxygen Requirement with Maximal Physical Labor. (Leistungsfähigkeit und Sauerstoffbedarf bei maximaler Arbeit.) N. Zuntz.
116 Capacity and Weight of Lungs and Heart in the Horse. M. Müller.

109. **Diabetes.**—Von Noorden states that the liver is evidently the source of sugar production, and that this function is controlled by the pancreas and the suprarenals—the pancreas inhibiting sugar production and the suprarenals stimulating it. The pancreas in turn is under the control of the thyroid, the secretion of which has an inhibiting action on the functioning of the pancreas as is shown in the increased tendency to glycosuria with thyroid hyperfunctioning. After thyroidectomy, the pancreas exerts such a strong inhibitory action on the liver that it is almost impossible to induce glycosuria. The hypophysis cerebri seems to have the same action on the pancreas as has the thyroid; with tumor of the hypophysis there is remarkable tolerance for large amounts of sugar. The suprarenals are under the control of the sympathetic nervous system and are very sensitive to the action of certain toxins. Formerly it was assumed that the glycosuria resulting from puncture of the medulla ("sugar puncture") was due to direct stimulation of the liver from the central nervous system, but recent research has demonstrated that this stimulation is transmitted by the left sympathetic nerve and at first to the left suprarenal, whence the stimulation is forwarded to the right suprarenal by the connecting nerves. If the left suprarenal is cut off from the left sympathetic nerve, no glycosuria follows the sugar puncture. Puncture of the medulla stimulates the suprarenals to greater secretion, and this secretion in turn stimulates the liver to an excessive output of sugar. A number of toxic influences act in the same way, partly by the influence on the sugar center in the medulla, partly by stimulation of the sympathetic nerve or the suprarenals thus causing exaggerated functioning which entails overproduction of sugar in the liver. These facts, v. Noorden says, explain the influence of the central nervous system on the intensity of diabetic glycosuria and show the necessity for studying each individual case with special care, and the importance of warding off emotional stress and injurious nervous and toxic influences. He is convinced that there is no disease in which physicians neglect to such an extent this individual study of the patient as in diabetes. There is no other affection, he declares, which is so rich in complications of all kinds, whose treatment requires such comprehensive regard for all the organs and their functional capacity and which makes such high demands on the individualistic estimation of the details and of the whole clinical picture. In regard to dietetic treatment, he says that diabetics must resign themselves to watch carefully over every mouthful they take and that this must be kept up indefinitely. It is especially hard for them as they do not feel ill. No drug can take the place of restriction of carbohydrates in the diet, and the benefit claimed for certain remedies is always due to the dietetic regulations imposed with them. The physician treating a diabetic in 1911 must keep long years to come constantly in view, and not let himself be deterred from his plan of treatment by the momentary complaints of the patient or his family.

110. **Uterine Cancer.**—Schauta states that for the last ten years he has been systematically operating by the vaginal route in all cases of uterine cancer in order to obtain a reliable set of statistics. His mortality was at first 10 per cent., but in his later series this has been reduced to 4 per cent.; the operability was between 50 and 60 per cent.; the permanent cures average between 40 and 50 per cent., while the permanent "absolute cures" have been 13 per cent., 15 per cent. in recent series and the proportion will be still higher next year as he will have 28 per cent. with an interval of over four years since the operation. In from 10 to 15 per cent. of his total material the physician first consulted neglected gynecologic examination, and this is where improvement must come in the future. The physician must absolutely refuse to have anything to do with the case unless the woman applying for any gynecologic trouble at the cancer age will permit local examination. If he gives her any advice or writes a prescription the woman is satisfied with the "treatment" and does not return for weeks or months, and then she is lost. He insists that hemorrhage during the climacteric period should never be ascribed to the influence of the menopause until all other causes for it have been scrupulously excluded. He states that it is far better to examine ninety-nine women needlessly than to let cancer in the hundredth escape detection in time. The fear of

cancer in the public should not deter from this course; a woman can be relieved of this fear in a few hours by going to a physician for examination if she is free from malignant disease while the physician can assure her that she can be cured if he discovers an incipient cancer. He adds that surgeons have come to the limit of technical skill; the burden of the campaign against uterine cancer rests now on the shoulders of the general practitioner and the public.

114. **Hereditary Displacement of the Patella.**—In the family described by Wrede, bilateral luxation of the patella was observed in the grandfather, in the father, in his sister and one of his five brothers, and in the son and daughter.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

December, XXXII, No. 6, pp. 641-754

117 Pregnancy in a Dwarf. (Fall von hypoplastischem Zwergwuchs mit Gravidität nebst Bemerkungen über die Aetiologie des Zwergwuchses.) B. Aschner.
118 *Status Epilepticus and Pregnancy. E. Sachs.
119 Gas in the Uterus. (Zur Lehre von der Tympania uteri.) H. Rimann.
120 Subcutaneous Symphyseotomy and Suprasymphyseal Delivery. (Ueber den subcutanen Symphysenschnitt und die suprasymphysäre Entbindung.) F. Frank.
121 Postoperative Protection of Abdominal Cavity. H. Sellheim.
122 Pseudomyxoma in Peritoneum After Appendicitis. H. Cramer.
123 Radioactive Ferments in Treatment of Inoperable Cancer. A. Sticker and E. Falk.
124 Local and Spinal Anesthesia in Gynecology. G. A. Wagner.

118. **Status Epilepticus and Pregnancy.**—Sachs reviews the literature on this subject and reports the case of a woman with a tendency to epilepsy since puberty as also her two sisters. The sisters have been healthy since their marriage and have borne healthy children, but Sachs' patient found the epilepsy aggravated by her first pregnancy, so that violent seizures recurred every day. After failure of other measures, premature delivery was induced with the inflatable bag, after incision of the cervix, the uterus being emptied immediately after the cervix was sufficiently dilated. Hemorrhage was arrested by the Momburg belt constriction but the woman died without regaining consciousness. Necropsy showed none of the changes in the internal organs characteristic of eclampsia. Sachs is convinced that the measures adopted did harm rather than good; the long-continued irritation from the method of delivery and other measures kept up a constant stimulation of the cortex contrary to the general principles imperative in treatment of epilepsy. Possibly better results might have been obtained if the uterus had been emptied rapidly by vaginal Cesarean section. Only two cases are on record, he says, in which the intensity of the status epilepticus developing in pregnancy equaled that in his patient. Differentiation from eclampsia is difficult, and he thinks that some cases on record may have been mistaken for eclampsia. He has been unable to find any record of a case of status epilepticus or epilepsy in any form in which the patient was cured by interruption of the pregnancy. The aim should be to ward off everything that might irritate the central nervous system. If delivery is urgent, the shortest technic should be employed. The history, epileptic equivalents, possibly knowledge that the bromids have been abruptly suspended, may give the clue to the epilepsy, while an unusually low freezing-point of the urine and hyperleukocytosis suggest eclampsia. He emphasizes the importance of differentiating them as the treatment is diametrically opposite for the two affections. Pregnant women with a history of epilepsy should have their bodily functions supervised with exceptional care, the bromids should never be abruptly suspended, and excesses of all kinds should be avoided. Albuminuria is the rule in eclampsia to such an extent that the lack of it has caused some writers to dispute the diagnosis in otherwise apparently typical eclampsia. At the same time, repeated epileptic seizures are liable to induce albuminuria.

Münchener medizinische Wochenschrift

January 3, LVIII, No. 1, pp. 1-64

125 *Salvarsan: Retrospect and Outlook. (Salvarsantherapie.) P. Ehrlich.
126 Digipuratum. R. Gottlieb and R. Tambach.
127 Technic for Treatment of Cleft Palate and Harelip. (Behandlung der mit Wolfsrachen komplizierten einseitigen Hasenscharten.) B. Riedel.
128 *Siphonage of Stomach Content Through the Nose in Peritonitic Ileus. M. Kappis.
129 Four Cases of Sepsis from Friedländer Bacillus. F. Rolly.
130 *Recurrence of Syphilis in Nervous System After Mercurial Treatment. (Syphilitische Neurorezidive.) J. Benario.
131 Intrathoracic Goiter. S. Kreuzfuchs.
132 *Injurious Action of Pure Oxygen on the Lungs. (Zur Chloroformsauerstoffnarkose.) A. Schmidt and O. David.
133 *Butenko Reaction in Urine in Paralysis. P. Beisele.
134 Technic of Carbon Dioxid Snow Treatment of Skin Disease. (Technik der Kohlensäureschneebehandlung.) A. Strauss and H. Fründ.

125. **Retrospect and Outlook for Salvarsan Therapy.**—Ehrlich here reviews the subject to date saying that his preliminary connection with the drug is now practically closed. He regards his method of distributing the drug for extensive investigation by leading medical men as the only proper method of introducing a new drug. He states that he never claimed that the drug would cure in a single dose, and he also insists that the cases in which the drug has been applied contrary to the indications he so carefully specified should not be placed to its discredit. He compares it to chloroform; in the healthy not more than one fatality is known in 50,000 applications of chloroform, while this proportion increases to 1 in 2,070 for the average hospital material, and the proportion is far higher in heart disease. The few bladder disturbances that have been reported are probably traceable to defective vials with oxidation of the drug by contact with air, the resulting compound being much more toxic than the salvarsan. He discusses in detail the cases reported by Benario and others in which the recurring manifestations of the syphilis were in the optic or auditory nerve and he relates a number of instances in which similar recurrences in the nervous system have been observed after mercurial treatment or without any treatment. The chief argument against their being results of toxic action from the salvarsan is that they were rapidly cured by salvarsan; if the salvarsan had been responsible, another dose of the drug would have aggravated the lesion. The only case of blindness reported from it was in Finger's patient, whose case was mentioned in THE JOURNAL, Jan. 7, 1911, page 83, but this patient had within the year been given thirty injections of arsacetin in addition to other arsenical medication. Ehrlich had previously warned against giving the salvarsan to any patient who had been taking any arsenical preparation. He regards these recurrences in nerves as a sign that the spirochetes elsewhere have been practically exterminated and that this was their last refuge. The sterilization had been almost complete, and a dose of salvarsan rapidly cured seven of Benario's ten patients in whom these recurrences developed after mercurial treatment alone. In conclusion, Ehrlich says, that salvarsan has won a permanent place for the treatment of syphilitic mouth and throat affections and those of the nasal mucosa, the cutaneous syphilids of the secondary and tertiary phases, "galloping" syphilis and congenital syphilis and the cases refractory to mercury—for all these salvarsan has proved itself the most powerful weapon, uniting, he asserts, the action of mercury and iodid, while surpassing both in the reliability and rapidity of the effect.

128. **Retention Stomach Tube in Peritonitic Ileus.**—THE JOURNAL, April 9, 1910, page 1244, mentioned Westerman's method of continuous siphonage of the stomach content by a stomach tube introduced through the nose, and Kappis here relates a number of experiences with this measure which confirm its clinical value. A broad, soft stomach tube slips easily through one nostril down into the stomach and it is left there, the stomach contents being readily siphoned out. In peritonitic ileus the vomiting and hiccough stop at once and the patient can drink freely. Some of the fluid thus passing through the stomach is probably absorbed, especially an alcoholic or sugar solution, while the abdomen is left in peace and is relieved of the pressure of the filled stomach. This siphonage by the nose has been applied in ten cases of severe peritonitic ileus in his service with the best results. If it does not succeed, enterostomy is indicated without too long waiting, for fear of decubitus in the esophagus from the stomach tube. He found such at necropsy in one case in which the tube had been left in the esophagus for forty-eight hours. Since then he never leaves it more than twelve hours at a time, reintroducing it if necessary. The measure is also urgently indicated, he declares, in postoperative obstruction

of the duodenum, in acute dilatation of the stomach, and in gastric succorrhea.

130. See abstract No. 125.

132. **Chloroform-Oxygen Anesthesia.**—Schmidt and David describe research on mice which shows that breathing air containing over 90 per cent. oxygen induces changes in the lungs similar to the picture of croupous pneumonia. The same changes were induced in guinea-pigs with from 40 to 60 per cent. oxygen, and they think that there is no doubt that the oxygen has an unmistakably injurious action on the bronchial and alveolar epithelium. This property of oxygen has not been regarded sufficiently hitherto; they think that there seems to be some analogy between it and caisson disease.

133. **Specific Urine Reaction in Paralysis.**—Beisele found Butenko's reaction positive in twenty-five out of twenty-seven cases of paralysis, that is, in 94 per cent. The reagent is a solution of mercurous nitrate in water with a little nitric acid, the combination known as liquor Bellostii. The reaction was never positive in seventy-three other patients examined.

Therapeutische Monatshefte, Berlin

December, XXIV, No. 12, pp. 669-762

135 *Treatment of Exophthalmic Goiter. (Zur Behandlung der Basedowschen Krankheit.) W. Ebstein.
136 *Advantages of Dry Treatment of Leukorrhea. (Behandlung des Fluor albus.) W. Liepmann.
137 Veronal in Treatment of Seasickness. (Seekrankheit und Veronal.) E. Schepelmann.
138 Pharmacologic Tests for Atropin, Physostigmin and Pilocarpin. J. Pohl.
139 Cause of Therapeutic Action of Electric Currents. P. Steffens.

135. **Treatment of Exophthalmic Goiter.**—Ebstein reports four new cases to show the remarkable benefit liable to follow the cure of severe chronic constipation in cases of exophthalmic goiter. In one of the cases all the symptoms subsided and there has been no recurrence during the fifteen years since. The constipation in all these cases yielded only to persevering, systematic injections of oil. The diarrhea with exophthalmic goiter may also yield to injections of oil. He is convinced that auto-intoxication from chronic constipation is liable to have an injurious influence on the thyroid, and when the source of these toxins is dried up by the cure of the tendency to constipation, the disturbances resulting from the pathologic thyroid functioning are liable to subside with it. His patients were women between 18 and 47 years old.

136. **Treatment of Leukorrhea.**—Liepmann has obtained better results in treatment of leukorrhea since he has discarded lavage and merely applied an absorbent powder after sponging the vagina dry. Nassauer has long been proclaiming the advantages of bolus alba for the purpose on account of its absorbent properties.

Wiener klinische Wochenschrift, Vienna

January 5, XXIV, No. 1, pp. 1-42

140 Photodynamic Action of Fluorescent Substances. II. H. Pfeiffer.
141 *Experiences with Tuberculin Treatment. J. Sorgo and E. Suess.
142 Dispensary Tuberculin Treatment. (Tuberkulindiagnostik und ambulatorische Tuberkulinbehandlung.) M. Laub.
143 *Lordotic Albuminuria and School Hygiene. L. Piesen.
144 Generalized Herpes Zoster. G. Nobl.
145 Diagnosis of Sporadic Cases of Cholera. (Zur Verwendung der Blutplattenmethode und der Komplementbindungsreaktion in der Diagnose sporadischer Cholerafälle.) M. Gioseffi.
146 Diet and Kitchen from Chemical, Physical and Physiologic Standpoints. W. Sternberg.

141. **Tuberculin Treatment.**—Sorgo and Suess are in charge of the Alland sanatorium and they have had such favorable experiences with tuberculin treatment that they hope to see it become a routine measure in the hands of the general practitioner. The patients must be warned that they may be obliged to spend a few days in bed when the reaction is unusually severe, and patience and perseverance are required by both the physician and the patient. There is no doubt, they declare, that tuberculin is an important weapon against pulmonary tuberculosis. They usually begin with 0.000001 or 0.00001 gm. but they warn that it is folly to waste time with doses below those which the patient can tolerate; it is necessary to begin with the smallest doses in some cases, but with a little experience it is possible to select those in which larger doses can be commenced from the first.

143. **Lordotic Albuminuria.**—Piesen found that the children inclined to lordotic albuminuria developed it when they were obliged to sit with their arms crossed behind them, a frequent school attitude. Study of the subject in a large number showed that this attitude has a directly injurious influence on the kidney and is liable to induce albuminuria. The predisposition to lordotic albuminuria seems to be more pronounced, the taller the child for its age. The facts observed confirm Lury's assumption that movability of the kidney is the decisive factor in lordotic albuminuria.

Zeitschrift für Urologie, Berlin

December, IV, No. 12, 897-1036

147 Technic for Pyelolithotomy. S. P. v. Federoff.
148 Partially Intraligamentary Developed Bladder. J. Voigt.
149 Congenital Cysts in Genital and Perineal Regions. C. Gutmann.

Zentralblatt für Chirurgie, Leipsic

January 7, XXXVIII, No. 1, pp. 1-32

150 *Autodrainage for Elephantiasis, Etc. (Eröffnung neurer Abfuhrwege bei Stauung in Bauch und unteren Extremitäten.) O. Lanz.
151 *Transplantation of Nerve from One Side to the Other. (Nervenüberpflanzung von der einen Seite auf die entgegengesetzte.) D. Maragliano.
152 Femoral Hernia. (Zur Radikaloperation der Schenkelhernie.) A. Hammesfahr.
153 *Subungual Hematoma. G. v. Lobmayer.

150. **Autodrainage for Elephantiasis from Congestion of Lymph.**—Lanz was able to obtain a complete cure in the case of a man of 49 whose right leg had been gradually enlarging in size for five years, without pain, the disfigurement and discomfort resulting from the enormous size of the entire limb incapacitating the patient at times. Lanz kept the man in bed for ten days with the limb raised, and then incised the thigh down to the bone and bored into the femur at the lower, middle and upper thirds. He then cut some narrow strips from the fascia lata and worked them into the three holes drilled in the bone, his aim being to induce a collateral circulation of lymph, opening a passage from the subcutaneous lymphatics into the intramuscular, subperiostal and marrow network of lymph vessels. Before suturing he made also a number of openings for drainage through the fascia lata. The silk suture the length of the thigh may also have contributed to the result. Relief was immediate and permanent. Now, three years later, no difference is apparent between the right and left leg, except that the skin of the right thigh seems a little thicker than the other. The fascia lata is an absolute barrier for the lymph routes, and by artificially opening passages through this barrier the whole trouble was cured. If the desired effect had not been attained he had intended to connect the lymphatics in the thigh with those of the seminal cord, pushing the latter over to the fossa ovalis.

151. **Transplanting the Femoral Nerve to the Other Side.**—Maragliano implanted a branch of the left femoral nerve in the totally paralyzed right femoral nerve in the case described. The patient was a child of 2 with total paralysis of the right leg from acute poliomyelitis nearly a year before. Arthrodesis at the hip-joint, knee and ankle would have been necessary to enable the child to walk, but excellent functional results were obtained by drawing the isolated branch of the left femoral nerve through a subcutaneous tunnel and suturing it with the finest catgut to the entire peripheral stump of the right femoral nerve.

153. **Subungual Hematoma.**—Lobmayer trephines the nail and thus releases the accumulated blood without pain and without injury of the nail. He has applied the method in forty cases, complete working capacity being restored in three or four days while the relief from pain was immediate.

Zentralblatt für Gynäkologie, Leipsic

January 7, XXXV, No. 1, pp. 1-48

154 Asepsis in Laparotomies and the Origin of Emboli. O. v. Franqué.
155 *Oxygen in Resuscitation of New-Born Infants. (Die Sauerstoffdruckatmung zur Bekämpfung des Scheintodes Neugeborener.) F. Engelmann.
156 Nomenclature in Obstetrics. J. Reich.
157 Walling Off the Small Pelvis After Infectious Operations. (Die Abkapselung des kleinen Beckens nach infektionsverdächtigen Operationen.) E. Holzbach.

155. **Resuscitation of Asphyxiated New-Born Infants.**—Engelmann gives an illustrated description of the small oxygen tank and mask which has permitted the prompt resuscitation of a number of asphyxiated new-born infants with the least delay and trouble. The mask consists of a broad rubber ring which fits over the face, the roof of the mask forming a rubber balloon opening on the mask proper.

Zentralblatt für innere Medizin, Leipsic

January 7, XXXII, No. 1, pp. 1-32

158 Digestion of Carbohydrates. A. Jolles.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 27, XXXI, No. 155, pp. 1641-1648

159 Iodin Sterilization of Field of Operation. (Sterilizzazione del campo operativo col metodo Grossich.) D. Vandini.

January 1, XXXII, No. 1, pp. 1-16

160 Acidity of the Urine in Respect to Diagnosis and Prognosis. (L'acidita urinaria indagata come grado, persistenza e aumento.) L. Castriota.

January 3, No. 2, pp. 17-24

161 Treatment of Venereal Adenitis. G. Dal Fabbro.

Policlinico, Rome

December 18, XVII, No. 51, pp. 1603-1634

162 Urinary Concrements in Children. (Litiasi urica dei bambini.) G. Di Cristina.

January 1, XVIII, No. 1, pp. 1-36

163 *Clinical Importance of Two Precipitates in Acetic-Acid Seroreaction. F. Rivalta.

163. **Acetic-Acid Seroreaction.**—THE JOURNAL, July 9, 1910, page 178, described Rivalta's technic for this reaction with blood and serum, and the conclusions he drew from the findings in regard to the prognosis. He now announces that continuing the dilution still further, after all trace of precipitation had ceased, he found that in certain serums another precipitable substance made itself manifest when the dilution had reached a certain point. The behavior of this second precipitate indicates, he thinks, that it is due to the presence in the serum of certain elements resulting from breaking down of tissue, while the first precipitable substance seems to be an element of the defensive reaction. Comparison of the two may thus throw light on the prognosis. The second precipitate was evident in dilutions up to 1 to 15,000 in cases of advanced tuberculosis, for example.

Riforma Medica, Naples

December 19, XXVI, No. 51, pp. 1402-1428

164 *Carcinoma of Thyroid. (Carcinomi della ghiandola tiroide.) G. Morone.

165 Advantages of Temporary Cecostomy in Treatment of Mucomembranous Colitis. G. Doglioni.

164. **Cancer of the Thyroid.**—Morone reports three cases of cancer in the thyroid with an extremely rapid course; in two there was a preceding colloid goiter. One patient was a woman of 25, the others were over 40. In another case the symptoms suggested subacute inflammation of the thyroid; the intermittent fever was probably due to the absorption of the pathologic secretions of the gland.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

STUDIES ON LEPROSY. XII. NOTES ON THE STUDY OF HISTORIES OF LEPERS FROM THE STANDPOINT OF TRANSMISSION. By Donald H. Currie, Passed Assistant Surgeon and Director Leprosy Investigation Station. XIII. A CONTRIBUTION TO THE STUDY OF RAT LEPROSY. By Donald Currie and Harry T. Hollmann, Acting Assistant Surgeon, Leprosy Investigation Station, P. H. & M.-H. S. Investigations made in Accordance with the Act of Congress approved March 3, 1905. Public Health Bull. No. 41, U. S. P. H. and M.-H. S., Treasury Department, November, 1910. Paper. Pp. 36. Washington: Government Printing Office, 1911.

ACCIDENTAL INJURIES TO WORKMEN. With Reference to Workmen's Compensation Act, 1906. By H. Norman Barnett, F.R.C.S., Surgeon, Cripples' Home, Belfast. With Article on Injuries to the Organs of Special Sense, by Cecil E. Shaw, M.A., M.Ch., M.D., Lecturer on Ophthalmology and Otology, Queen's University of Belfast, and Legal Introduction by Thomas J. Campbell, M.A., LL.B., Barrister-at-Law. Cloth. Price, $2.50. Pp. 376. New York: Rebman Co., 1911

THE WORK OF THE DIGESTIVE GLANDS. Lectures by Prof. I. P. Pavlov, Director of the Physiological Section of the Imperial Institute of Experimental Medicine. Translated by W. H. Thompson, Sc.D., M.D., F.R.C.S. (Eng.), King's Professor of the Institutes of Medicine, Trinity College, Dublin. Second English Edition. Cloth. Price, $3 net. Pp. 266, with 43 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

A HANDBOOK OF PRACTICAL TREATMENT. By Many Writers. Edited by John H. Musser, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania, Philadelphia. Volume 1. Cloth. Price, $6 net. Pp. 909, with 233 illustrations. Philadelphia: W. B. Saunders Co.,1911.

REMEDIAL GYMNASTICS FOR HEART AFFECTIONS. Used at Bad-Nauheim. By Dr. Julius Hofmann and Dr. Ludwig Pohlman, Berlin and Bad-Nauheim. Translated by John George Garson, M.D., Edin., Physician to the Sanatoria and Bad-Nauheim, Eversley, Hants, from "Die Gymnastik der Herzleidenden." Cloth. Price, $2 net. Pp. 128, with 42 illustrations. New York: Paul B. Hoeber, 1911.

FOURTEENTH ANNUAL REPORT OF THE LOOMIS SANATORIUM FOR THE TREATMENT OF TUBERCULOSIS. Oct. 31, 1910. Liberty, Sullivan County, New York. (Medical Supplement prepared in accordance with the suggestion of the National Association for the Study and Prevention of Tuberculosis, by Herbert Maxon King, M.D.) Paper. Pp. 80.

THE TREATMENT OF SYPHILIS BY THE EHRLICH-HATA REMEDY (DIOXYDIAMIDOARSENOBENZOL). A Compilation of the Published Observations by Dr. Johannes Bresler, Chief Physician to the Provincial Medical Establishment at Luben, Silesia. Second Edition. Cloth. Price, $1. Pp. 122, with illustrations. New York: Rebman Co.,1911.

AERZTLICHE FORTBILDUNGSKURSE DER FREIEN ORGANISATION FÜR DIE MEDIZINISCHEN KURSE AN DER K. K. UNIVERSITÄT WIEN. (Postgraduate medical work under the patronage of the free organization for medical courses at the i. r. University of Vienna.) 2. Ausgabe. Paper. Pp. 116. Vienna: Urban & Schwarzenberg, 1911.

DISCURSO LEIDO EL DIA 2 DE JULIO EN LA APERTURA ANUAL DE LOS ESTUDIOS DE LA UNIVERSIDAD PONTIFICIA DE STO. TOMAS, DE MANILA. Por Don Leon M. Guerrero, Professor de la Facultad de Farmacia en la misma Universidad. Edicion oficial. Paper. Pp. 88. Manila: Estab. Tipog. del Colegio de Sto. Tomas, 1910.

AN INTRODUCTION TO VERTEBRATE EMBRYOLOGY. Based on the Study of the Frog, Chick and Mammal. By Albert Moore Reese, Ph.D. (Johns Hopkins), Professor of Zoology in West Virginia University. Second Edition. Cloth. Price, $1.50 net. Pp. 340, with 118 illustrations. New York: G. P. Putnam's Sons, 1909.

HISTORY OF ANTHROPOLOGY. By Alfred C. Haddon, M.A., Sc.D., F.R.S., Fellow of Christ's College, University Reader in Ethnology, Cambridge. With the Help of A. Hingston Quiggin, M.A., Formerly of Newnham, Cambridge. Cloth. Price, 75 cents. Pp. 206, with illustrations. New York: G. P. Putnam's Sons, 1910.

THE HEALTH INDEX OF CHILDREN. By Ernest Bryant Hoag, M.A., M.D., Medical Director of Berkeley Schools. With Prefatory Note by Frank F. Bunker, Ph.B., Superintendent of Berkeley Schools. Cloth. Price, 80 cents. Pp. 188, with illustrations. San Francisco: Whitaker & Ray-Wiggin Co., 1910.

SYPHILIS: ITS DIAGNOSIS AND TREATMENT. By F. J. Lambkin, Col. R.A.M.C., Lecturer on Syphilology, Royal Army Medical College, London. With Preface by Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D. Cloth. Price, $2.25 net. Pp. 195. New York: William Wood & Co., 1911.

PROCEEDINGS OF THE 64TH ANNUAL MEETING OF THE NEW YORK STATE TEACHERS ASSOCIATION. Held at New York City, Dec. 28-29, 1909. New York State Education Department Bulletin 483. Paper. Pp. 703. Albany: University of the State of New York, 1910.

RADIUM: ITS PHYSICS AND THERAPEUTICS. By Dawson Turner, B.A., M.D., F.R.C.P., Edin., Lecturer on Medical Physics, Surgeons' Hall, Edinburgh. Cloth. Price, $1.75 net. Pp. 86, with 27 illustrations. New York: William Wood & Co., 1911.

COMPEND OF GYNECOLOGY. By William Hughes Wells, M.D., Associate in Obstetrics in the Jefferson Medical College. Fourth Edition. Cloth. Price, $1 net. Pp. 290, with 153 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

WE YOUNG MEN. The Sexual Problem of an Educated Young Man Before Marriage: Purity, Strength and Love. By Hans Wegener. Introduction by Sylvanus Stall. Paper. Price, 70 cents. Pp. 204. Philadelphia: Vir Publishing Co., 1911.

AN INTRODUCTION TO SURGERY. By Rutherford Morison, M.A., M.B., F.R.C.S., Edin. and Eng., Professor of Surgery, University of Durham. Cloth. Price, $2.50 net. Pp. 162, with 151 illustrations. New York: William Wood & Co., 1911.

A HANDBOOK OF INTESTINAL SURGERY. By Leonard A. Bidwell, F.R.C.S., Surgeon, West London Hospital. Second Edition. Cloth. Price, $2.50 net. Pp. 215, with 120 illustrations. New York: William Wood & Co., 1911.

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE OF THE UNITED STATES. For the Fiscal Year 1909. Cloth. Pp. 274. Washington: Government Printing Office, 1910.

PERSONAL HYGIENE AND PHYSICAL TRAINING FOR WOMEN. By Anna M. Galbraith, M.D., Author of "Hygiene and Physical Culture for Women," etc. Cloth. Price, $2 net. Pp. 371, with illustrations.

MAKERS OF MAN. A Study of Human Initiative. By Charles J. Whitby, M.D., Author of "The Logic of Human Character," etc. Cloth. Price, $3. Pp. 424, with illustrations. New York: Rebman Co., 1911.

STUDIES FROM THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH. Reprints. Vol. XI. 1910. Paper. Pp. 419, with illustrations.

STATE REGISTRATION FOR NURSES. By Louie Croft Boyd, R.N., Graduate Colorado Training School for Nurses. Paper. Price, 50 cents. Pp. 42. Philadelphia: W. B. Saunders Co., 1911.